ARA ISLAS ORCADAS

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ARA ISLAS ORCADAS CRUISE 0775 SEDIMENT DESCRIPTIONS

By

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COVER: ARA ISLAS ORCADAS berthed at Cape Town, Republic of South Africa upon termination of cruise 1176. (Photograph taken by Paul F. Ciesielski.)

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INTRODUCTION

The purpose of this volume, the seventh in a series of similar publications (Goodell, 1964, 1965, 1968; Frakes, 1971, 1973; Cassidy et al., 1977) is to continue a presentation to the research community of sediment core descriptions and attendant data of cored and otherwise obtained sediments retrieved in waters of the Southern Ocean aboard the research vessel, ARA ISLAS ORCADAS (formerly, USNS ELTANIN), as a part of the circumpolar survey begun by ELTANIN in 1962 (see issue of Antarctic Journal of the United States, Vol. 8, No. 3, 1973).

The data presented herein are concerned with the results of coring activities aboard cruise 0775 of ISLAS ORCADAS, the first marine geology coring cruise of this vessel under the terms of the present United States-Argentine agreement, and have been organized into five essential elements: 1) a brief summary of the coring objectives of the cruise, together with a discussion of core recovery; 2) a table and map of station location data for materials retrieved; 3) an explanation of the laboratory procedures and descriptive criteria used in the description of the sediments; 4) lithologic descriptions of the piston cores, and 5) lithologic descriptions of the trigger cores.

A significant feature of this volume is the method of graphic representation of the piston core descriptions--a departure from the more literary style of previous volumes. Termed a "modified DSDP (Deep Sea Drilling Project)" format, the method is an approach to providing investigators with a thorough, more detailed knowledge of the floral, faunal, and mineralogical elements comprising the sediments. Also, for the first time, a table of tentative age dates for each core has been included with the core descriptions (table 2).

Investigators who wish to apply for samples from any of the cores described in this and aforementioned volumes are reminded that there exists an official policy governing their distribution, as provided by the National Science Foundation's Division of Polar Programs. This document has been reproduced herein as the final part of the volume (pages 75 and 76). Individuals desiring samples are encouraged to apply, in writing, to: Curator, Antarctic Research Facility, Department of Geology, Florida State University, Tallahassee, Florida 32306.

ACKNOWLEDGMENTS

The principal effort involved in the preparation of this volume has been the responsibility of the authors.

Gratefully acknowledged is the assistance of several members of the Antarctic Research Facility whose contributions made the project possible. Marjorie Knapp, as one of her first duties upon being employed as the Facility's new draftswoman, executed all figures and lithology columns. The core describing team consisted of Marty Abrahams, Ken Campbell, Paul Ciesielski, David DeFelice, Tina Emerick, Amrisar Kaharoeddin, Duncan MacKenzie, Glenn Ray, Susan Shepley, Marianne Weaver, and Ivar Zemmels, with Ciesielski, Kaharoeddin and Zemmels serving as nuclei for the group.

Carbonate analyses were performed by Bruce Wagner and Denise DuRant under the expert guidance of Yang-Ja Chung, and many of the routine, but critical phases of production such as proofreading were coordinated by Alan Brown, Shelton Graves, Susan Shepley, and Yang-Ja.

LaVerne Lamb and Louise Cox attended to the typing. This was a difficult task because final typing required photocopy quality. Photographic assistance was handled by Alan Brown.

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ISLAS ORCADAS CRUISE 0775

Cruise Objectives

Cruise 0775 of the Argentine research vessel, ARA ISLAS ORCADAS (formerly USNS ELTANIN), was the first of a series of multidisciplinary (marine geology, geophysics, and physical oceanography) cruises of this vessel in waters of the Southern Ocean. Although not intended specifically to be a part of the Antarctic circumpolar survey (Watkins, 1975) originally begun by ELTANIN in 1962 under the auspices of the United States National Science Foundation, this cruise nevertheless reinaugurates an attempt to initiate completion of the survey as a cooperative United States-Republic of Argentina joint venture, following the two year period during which ELTANIN was out-of-service.

A detailed summary of the cruise is documented in Warnke et al. (1976). Excerpted from this article is the following statement concerning cruise objectives:

> "Cruise 7 (officially designated cruise 0775) of ARA ISLAS ORCADAS (formerly USNS ELTANIN) was a 52-day cruise from Buenos Aires to Buenos Aires (30 October to 20 December 1975), concentrated in the area of the South Georgia Basin, the Malvinas (or Falkland) Plateau, and peripheral areas. The scientific objectives of the cruise were five-fold:
>
> (1) Investigation of the history of the water-transport mechanisms in the Falkland (Malvinas) Gap; that is, the history of Antarctic Bottom Water (ABW) in this area as revealed in the sedimentary record. To this end, cores were to be raised for the University of Rhode Island.
>
> (2) Geophysical investigation of the South Georgia Basin and periphery through magnetometer, gravimeter, and seismic-profiler studies by the Lamont-Doherty team. As an adjunct, cores were to be raised in the basin for California State University, Hayward, to provide details of the sedimentary history of this region and to shed light on details of Neogene-Holocene antarctic climatic history. In addition, these cores were to provide material for organic-geochemical analyses.
>
> (3) Physical-oceanographic studies by the Lamont-Doherty group were to be carried out in the entire area of operations, but had as their main objective the study of the suspected northward flow of ABW in the area to the east of the South Sandwich Islands.
>
> (4) Dredging was planned west and northwest of the South Sandwich Islands, an area of suspected back-arc spreading. The objective was to recover extrusive materials for analysis of geochemical trends to substantiate, modify , or reject the hypothesis of back-arc spreading.
>
> (5) Investigation of the sedimentary and structural history of the elevated eastward portion of the Malvinas (Falkland) Plateau ("the nose") by Florida State University, using a series of cores whose positions could be precisely predetermined by means of available information from D/V GLOMAR CHALLENGER and other records."

There were no bottom photographs taken on the cruise.

Core Recovery

A total of 44 complete piston cores were recovered aboard ARA ISLAS ORCADAS cruise 0775 by means of a modified Ewing piston corer using plastic liners. ("Complete" is defined herein to mean that a sample removed from these cores can be assigned an absolute interval value with respect to its distance down-core from the top, or 0 cm, end of the core.) The descriptions of 40 of these cores are presented within this volume. (One core, 0775-35, a 22 cm core, was apparently lost during shipment. Two other piston cores, 0775-9 and 0775-20, have not yet been opened due to special handling and sampling requirements of a principal investigator, Dr. Detlef Warnke.) Also recovered were 4 "bag" samples, representing unsuccessful piston core attempts which, nevertheless, did manage to obtain sediments lodged in the core cutter and/or catcher. Descriptions of these sediments are

included in the interest of publicizing their availability to the research community. Accompanying trigger core descriptions follow the descriptions of piston cores.

Similarly, a total of 28 complete trigger cores were recovered aboard ARA ISLAS ORCADAS cruise 0775. Descriptions of these sediments, together with those of 7 "bag" samples, are according to the same criteria used for the description of the piston cores, and all latitudes, longitudes, and water depths given are the same as for the corresponding piston core data.

Following the trigger core and bag sample descriptions is the description of sediment recovered by one attempted rock dredge (ship station 30).

Table 1 (page 5) lists ship station numbers, which correspond to piston and trigger core numbers, and latitude, longitude, length and water depth of cores. With respect to these data, it should be noted that assignments for latitude, longitude and water depth are not based on position data from PDR (Precision Depth Recorder) "hit" times of the coring apparatus, but instead, on the position of the vessel at the time of the beginning of descent of the coring apparatus (as determined from the computer output of the ship's Daily Data Sheets). This is done under the assumption that the initial descent of the coring rig was probably more directly over the point of bottom contact of the corer than would be the ship at "hit" time. During the descent, the ship may drift considerably; however, rapid "paying out" of the cable during drift time allows for a more or less vertical descent of the coring apparatus beneath the original ship position, with the trajectory of the cable being that of a long, sweeping arc from ship to point of bottom contact. Therefore, the fathometer reading at "hit" time indicates water depth under the ship, and not necessarily at the coring point. Water depths were interpolated from points in the ship's Daily Data Sheets, assuming constant slope from one known point to another, and the depth in fathoms was converted to meters by a x1.83 conversion factor.

It is to be further noted that water depths for ship stations are "corrected" in the sense that they have been interpolated with respect to ship position at the time of initial descent of the coring apparatus, as explained above; they have not been corrected, however, with respect to the Matthews corrections tables (Matthews; 1939), and therefore are not, in a strict sense, true corrections.

Core Shipment and Handling

All cores retrieved aboard ARA ISLAS ORCADAS cruise 0775 were shipped by refrigerated ocean freight and truck transport to the FSU Facility. Upon arrival, most cores were stored in the Facility's refrigerated storage room, maintained at 2°C. The remainder, to be used for biogeochemical studies, were placed in the low temperature (-23°C) storage vault. Core splitting of the plastic-encased, 3-meter sections of cored sediment is accomplished using an adjustable, track-operated, overhead, radial power saw (Cassidy and DeVore, 1973). The sediment core is manually split after the saw cuts through only the thickness of the cellulose acetate butyrate (CAB) plastic liner, on opposite sides. Following description and sampling, the two half-sections of core are heat-sealed in polyethylene "sleeving" to prevent dessication and then returned to refrigerated storage.

TABLE 1

STATION LOCATIONS, CORRESPONDING WATER DEPTHS, AND CORE RECOVERY FOR ARA ISLAS ORCADAS CRUISE 0775

Core and Ship Station Number[1]	Latitude(S)	Longitude(W)	Water Depth(m)	Core Length(cm): PC	TC
0(1)[2]	37°13.1'	54°23.2'	445	489*	NR
1	49°40.9'	40°23.6'	2090	52	NR
2	49°27.3'	39°37.6'	3336	1111	NR
3	49°23.9'	39°12.9'	3299	BAG	NR
4	47°49.1'	37°02.3'	5616	1142	56
5	48°51.2'	36°33.3'	4895	1169	54
6	48°42.2'	35°03.6'	5087	1009	54
7	47°57.4'	34°59.6'	5298	1130	55
8	47°46.2'	29°28.5'	4712	BAG	50*
9	47°51.3'	29°10.0'	4535	1129*	44*
11	49°58.8'	25°54.9'	4610	1667	30*
12	49°29.9'	33°58.6'	5080	1096	37
13	49°31.1'	34°58.2'	4967	1058	34
14	48°48.1'	35°37.6'	4989	187	BAG
15	49°31.4'	36°02.2'	4707	698	33
16	50°36.5'	31°46.0'	4440	1691	12*
17	50°58.1'	24°39.9'	4139	1132	22*
18	51°36.9'	27°24.0'	4194	567	40*
20	52°30.4'	31.49.5'	3395	1174*	21*
21	52°35.5'	27°16.4'	4639	1082	24*
25	56°34.7'	20°17.2'	5014	1149	23*
27	57°02.7'	23°34.3'	5020	1110	36*
29	57°11.6'	25°29.6'	3504	20	15*
30[3]	56°48.5'	29°49.2'	3272	DREDGE	
32	56°14.0'	30°36.1'	2933	584	21
33	55°11.6'	30°26.4'	4623	256	28
34	55°08.2'	31°05.5'	5073	540	22
37	52°41.3'	42°05.9'	2782	1009	7
38	52°25.8'	42°10.5'	3603	1139	BAG
39	51°58.4'	42°21.7'	2694	BAG	NR
40	50°18.2'	43°25.0'	1605	445	25
41	50°00.7'	43°34.7'	2189	BAG	NR
42	49°52.1'	43°37.8'	2621	54	21
43	50°13.2'	44°08.8'	1713	853	28
44	50°18.5'	44°31.7'	1651	688	26
45	50°25.0'	44°52.4'	1621	477	NR
46	50°27.8'	44°57.2'	1599	305	NR
47	50°32.9'	45°18.4'	1517	282	NR
48	50°38.5'	46°04.7'	1493	394	BAG
49	50°44.1'	46°20.2'	1784	467	23
50	50°51.5'	46°46.1'	2344	161	NR
51	50°57.3'	47°02.1'	2547	66	BAG
52	50°54.7'	46°50.0'	2558	135	NR
53	50°52.0'	46°36.6'	2229	191	50
54	50°36.0'	46°23.1'	1856	367	BAG
55	50°38.0'	46°39.1'	2255	345	BAG
56	50°35.0'	47°27.2'	2637	10	NR
57	50°34.9'	47°30.7'	2525	66	BAG

[1]Omitted station numbers are for stations at which there was no core recovery, or were STD stations only (Warnke, et al., 1976).

[2]Piston core 0(1) retained by Argentina.

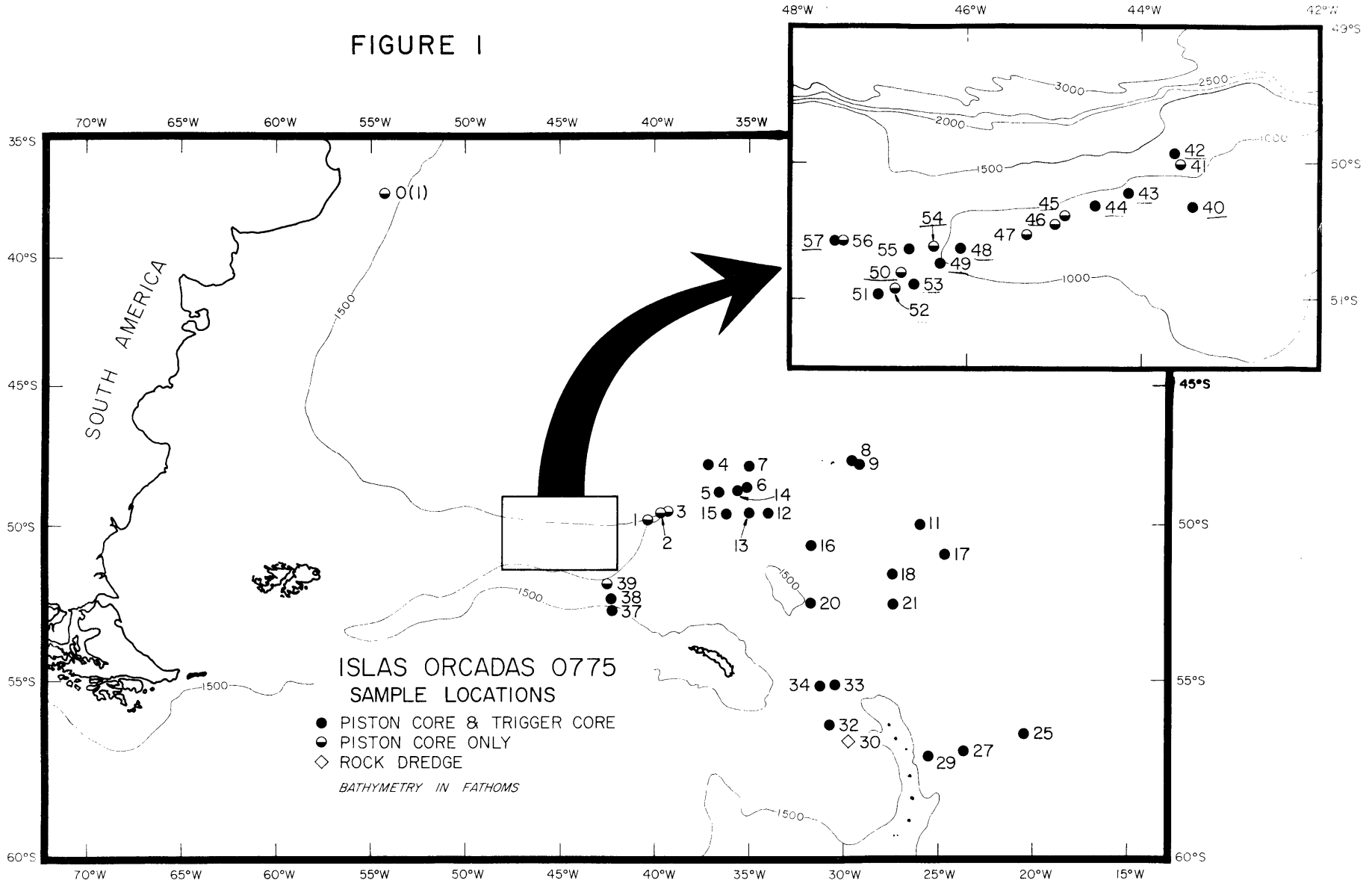
[3]Dredge station.

*Undescribed core length.

NR = No Recovery BAG = Bag Sample (see text, page 3)

Table 1 is intended to be used together with the core location map for this cruise (page 6), the core descriptions, and the notes concerning piston and trigger core recovery aboard cruise 0775. This approach will insure a knowledgeable evaluation of the data presented herein for the purpose of submitting sample requests.

FIGURE 1


ISLAS ORCADAS 0775
SAMPLE LOCATIONS
PISTON CORE & TRIGGER CORE
PISTON CORE ONLY
ROCK DREDGE
BATHYMETRY IN FATHOMS
SOUTH AMERICA
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
35°S
40°S
45°S
50°S
55°S
60°S
48°W
46°W
44°W
42°W
43°S
50°S
51°S
1500
2000
2500
3000
1000

THE SEDIMENT CORE DESCRIPTIONS

These core descriptions are designed to provide investigators with a detailed and standardized guide to the sedimentological information present in the cores, and will serve as an aid to the placing of sample requests for research needs. The descriptions include a verbal account of sediment characteristics and sea-bottom topography at the coring site. A graphic log is presented which illustrates the sediment lithology, and major sediment structures and inclusions.

All sediment descriptions are based upon megascopic core examination, smear-slide compositional analysis, and carbonate analysis (when sufficient carbonate is present).

The following sections will attempt to outline the visual and instrumental techniques, descriptive criteria, and classification scheme utilized in the preparation of the core descriptions.

Core Description Procedure

Lithologic units were defined on the basis of compositional and textural differences. These do not necessarily coincide with color changes. For each unit, the intervals (in centimeters), sediment name, color and color code, inclusions (gravel, sedimentary clasts, manganese nodules, chert, and other rock fragments), sedimentary structures (lamination, bioturbation, mottling) and the nature of contacts between units were successively recorded.

Sediment names were assigned according to the sediment classification system presented further on in this chapter. Data necessary to the task of naming the sediment was obtained from megascopic and microscopic studies of sediment composition and texture. Coarse-grained material was examined with a binocular microscope; when necessary, coarse-grained sediment was separated with a 63 μm sieve for further examination. Smear-slides of representative fine-grained sediment from each lithologic unit were prepared using Canada balsam as the mounting medium. Most of these fine-grained sediments are pelagic and were examined under petrographic microscopes at magnifications of up to 2000X. For most sediments, smear-slide data proved enough to provide a name to the unit; however, when coarse-grained materials were not represented on the slide, the smear-slide data were used only as a guide.

Sediment color names and color code were assigned from those of the Geological Society of America color chart immediately following the splitting of the cores in order to minimize fading and color changes which result from the exposure of the sediment to the atmosphere. Different colors in one unit due to chemical differences, or blotched colors due to bioturbation have been recorded.

Non-destructive examination was made of inclusions within the core sediment. Most inclusions are of three types: 1) manganese nodules; 2) gravel, granules, pebbles, rocks and rock fragments, predominantly of igneous or metamorphic origin, and most likely glacially deposited, and 3) sedimentary clasts. The latter are "softer", rounded to angular, unconsolidated fragments of older marine sediments, apparently redeposited in younger units. Rarely, chert is also present as an inclusion (present in three cores).

The degree of disturbance is qualitatively assigned as a rating of the value of the sediment for geological sampling. The term "slightly disturbed" connotes partial megascopic disturbance of the sediment, occurring most commonly along the sediment/core liner boundary. In sampling these sediments, care has to be exercised to recover samples that have stratigraphic integrity. The term "very disturbed" is used to describe sediments whose structure has been so deformed as to render its stratigraphy undecipherable. Sediments which have obviously lost some or most of their fine-grained constituents, or are mixed due to the winnowing of sea-water entrapped in voids in the liner, are termed "washed". Washed sediments generally occur at the top of the core and occasionally in the middle portion if the plastic liner imploded. "Flow-in" describes a major type of disturbance, usually occurring at the base of the core, in which the sediments suffer serious vertical elongation.

Carbonate Analysis

Carbonate analyses were performed using a modification of the EDTA titration method of Turekien (1956). Samples for carbonate analysis were taken at the same core intervals as the smear-slide samples. Samples were dissolved in acetic acid (1:50), buffered with NH_4OH and NH_4Cl to pH 10, to which 2% KCN was added to the solution to complex heavy metals, and titrated with EDTA for alkaline earths, using Eriochrome Black T as the indicator. A basic assumption is made that all carbonate is associated with the acid-soluble alkaline earths. Precision of the analysis is 3% with respect to the amount of calcium carbonate present.

Smear-Slide Analysis

In all smear-slide analyses, the following constituents were sought and quantitatively estimated: quartz, feldspar, mica, heavy minerals, volcanic glass, palagonite, glauconite, pyrite, ferromanganese micronodules, zeolites, foraminifera, calcareous nannofossils, unspecified carbonate, diatoms, radiolaria, sponge spicules, silicoflagellates, fish remains, and plant debris. Quartz and feldspar were usually not differentiated. Sideromelane was included with palagonite.

Abundance estimates of the relative percentages of sand, silt, and clay of all fine-grained, terrigenous, clastic sediments were made using the percentage composition charts for rocks and sediments as prepared by Shvetsov (Terry and Chilingar, 1955). Care was exercised to account for void space. The clay mineral content was difficult to quantify, both because of its fine-grained nature and the similarity of the refractive indices of clays and Canada balsam. Percentage estimates for clays are expressed as a difference between the sum of the estimated percentages of the other constituents and 100%.

The accuracy of the method of visual estimation ranges from 7% in the case of about one-half the total number of the prepared slides, to 10% in the other half, with the range of the degree of accuracy being primarily a function of the number of different components present in the smear sample: the greater the number of components, the less is the degree of accuracy. Variations in accuracy can also be attributed to both a tendency of the microscopist to overestimate the abundance of small particles (clays, nannofossils, and diatoms), and the frequency of misidentification of highly-colored or opaque particles (palagonite, glauconite, ferromanganese micronodules, and pyrite grains), resulting in their being included in other categories.

Apparent discrepancies between the smear-slide estimates of calcium carbonate and titrated values result from:

1. smear-slide estimates being a measure of cross-sectional area, whereas titration is a measure of the weight of the carbonate. Consequently, visual measurements for foraminifera, which are hollow, and nannofossils, which are tabloid with interstices, tend to overestimate the carbonate content.

2. random errors due to sampling differences. The titration sample is 100 to 500 times larger than the smear-slide sample and homogenizes differences in the sediment due to burrowing and lamination (e.g. PC 0775-40 at 262-263 cm and PC 0775-54 at 200-201 cm).

Sediment Classification

The sediment classification scheme employed herein is based upon one which was devised by the JOIDES Advisory Panel on Sedimentary Petrology and Physical Properties for use by the Deep Sea Drilling Project. Minor modification includes (1) an exclusion of lithified materials, (2) restriction of minor constituent (modifier) criteria, and (3) modification of pelagic ooze definitional boundaries. Sediment descriptions and graphic logs are constructed from data derived from megascopic core examination and quantitative smear-slide analysis.

The sediments recovered on cruise 0775 fell into one of the following three categories:

1. terrigenous clastic sediments, consisting of sand, silt, clay and mud;

2. pelagic sediments consisting of pelagic clay, siliceous ooze and calcareous ooze, and

3. a transitional group consisting of mixtures of clastic sediments and biogenous oozes.

No special sediment categories were found.

The major features of the sediment classification system are presented in figure 2 (page 11). Criteria used in naming the sediments are discussed as follows (refer to figure):

I. General Criteria

A. Sediments are named after their principal constituent.

B. Lesser constituents are designated as sediment name qualifiers when they exceed 15% (except glauconite which must exceed 10%) and precede the sediment name.

C. Not more than two qualifiers are used. When two are used, the second qualifier is the more abundant.

II. Special Criteria

A. Pelagic Biogenic Oozes

Special consideration is given to pelagic biogenic oozes in order to give the reader more information about the fossil content of the sediment.

The oozes are named according to the relative content of diatoms, radiolaria, foraminifera and calcareous nannofossils; silicoflagellates and sponge spicules invariably occur in minor quantities and are not considered in the system of nomenclature.

Basically, the pelagic biogenic oozes are named after their principal fossil type. Qualifiers may be other fossil types if they are present in quantities greater than 15%. Two different conventions are used when the lesser fossil type approaches the principal fossil type.

1. Both principal and lesser fossil types are either siliceous or calcareous. If the ratio of the lesser to the principal fossil type exceeds 0.75, the sediment is called a siliceous ooze if the principal and lesser types are diatoms and radiolaria, and a calcareous ooze if the principal and lesser components are foraminifera and nannofossils.

Examples:

Quartz and Feldspar	10	Quartz and Feldspar	5
Volcanic glass	1	Clay	3
Glauconite	7	Diatoms	13
Diatoms	45	Foraminifera	40
Radiolarians	35	Calcareous nannos	38
Sponge spicules	2	Radiolaria	1
$\frac{\text{Radiolarians}}{\text{Diatoms}}$ =	.78	$\frac{\text{Calcareous nannos}}{\text{Foraminifera}}$ =	.95
:hence, siliceous ooze.		:hence, calcareous ooze	

Calcareous sediments (i.e. greater than 30% $CaCO_3$) in which more than 1/3 of the carbonate is unspecified are also called calcareous ooze.

2. The principal and the lesser component are mixed types--either siliceous or calcareous. If the ratio of the lesser to the principal fossil type is greater than 0.75, both fossil types are used in the sediment name. The fossil types are joined by a hyphen (-); the less abundant type precedes the more abundant type.

Examples:

		Quartz and Feldspar	5
Clay	3	Clay	5
Foraminifera	3	Foraminifera	14
Calcareous nannos	48	Calcareous nannos	35
Diatoms	5	Diatoms	41
Radiolarians	41	Silicoflagellates	1
$\frac{\text{Radiolarians}}{\text{Calcareous nannos}}$ =	0.85	$\frac{\text{Calcareous nannos}}{\text{Diatoms}}$ =	.85

:hence, radiolarian-nannofossil ooze.

:hence, nannofossil-diatomaceous ooze.

Qualifiers for the hyphenated sediment name can be applied as in other sediments.

B. Terrigenous Detrital Sediments

1. Terrigenous sediments are named according to their texture. Grain-size limits are those defined by Wentworth (1922).

2. Terrigenous sediments containing less than 30% gravel are named according to the relative proportion of sand, silt and clay as shown in figure 3 (page 12). The qualifier "gravelly" is applicable if material with a median diameter of greater than 4 mm is more than 15%.

3. Terrigenous sediments containing more than 30% greater than 4 mm grains are called gravel. Appropriate qualifiers can be applied. If there is more than 80% gravel in the sediment, no qualifier is applied.

C. Volcanic Detrital Sediments: volcanogenic sediments are named according to the textural and compositional scheme of Wentworth and Williams (1932). The name of the sediment is derived from the dominant grain-size of the volcanoclastic material, as follows: volcanic breccia (greater than 32 mm), volcanic lapilli (less than 32 mm, greater than 4 mm), and volcanic ash (less than 4 mm). Compositionally, volcanoclastic materials are described as vitric (glass) or lithic (containing crystals).

D. Transitional Sediments: transitional sediments, as the name implies, derive their name from detrital or pelagic biogenic components. The texture of the detrital component of transitional calcareous sediments is not specified. The detrital component (either as the principal component or as a qualifier) in diatomaceous transitional sediments is specified according to the textural parameters as outlined for terrigenous sediments.

CLASSIFICATION OF MARINE SEDIMENTS

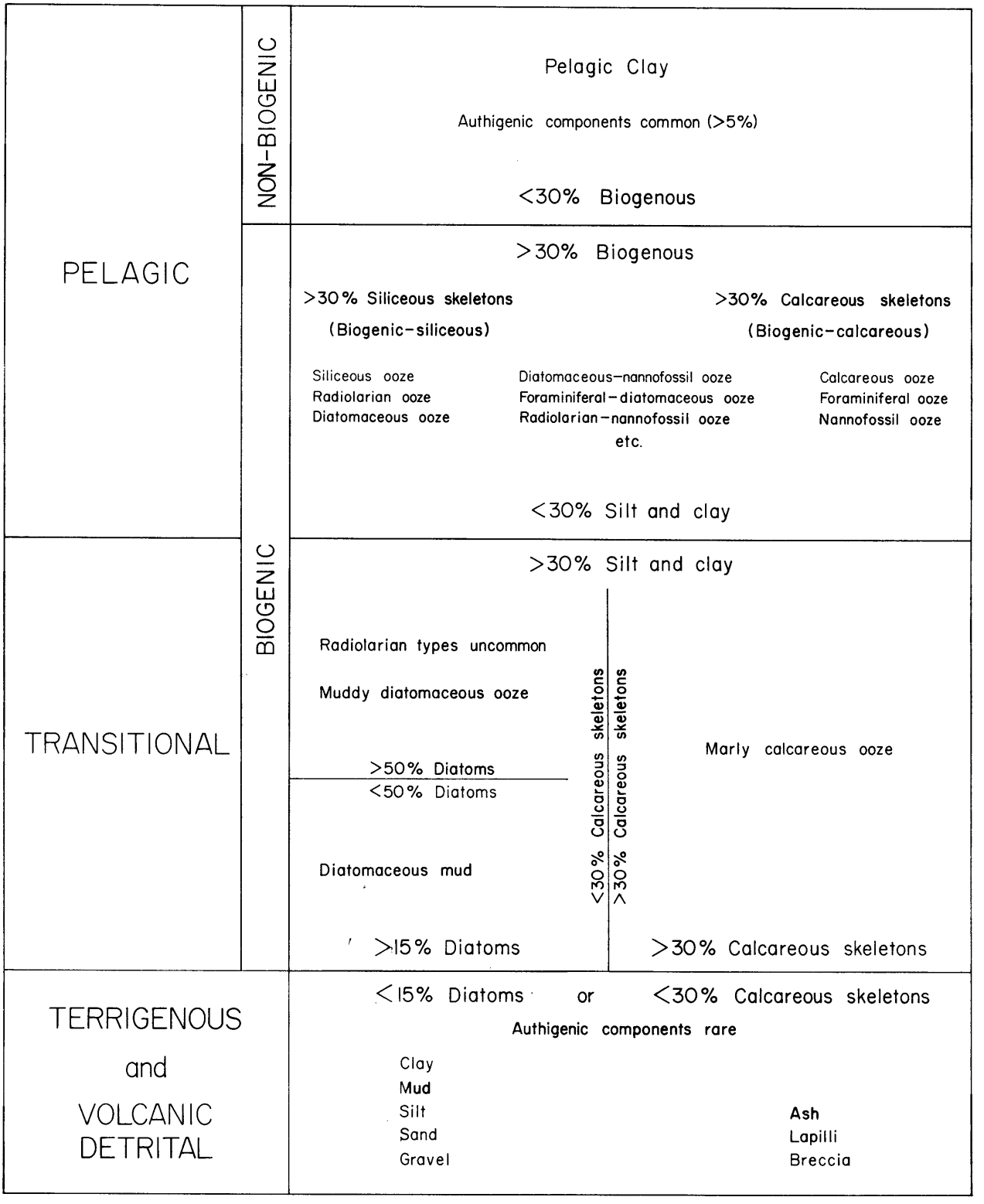
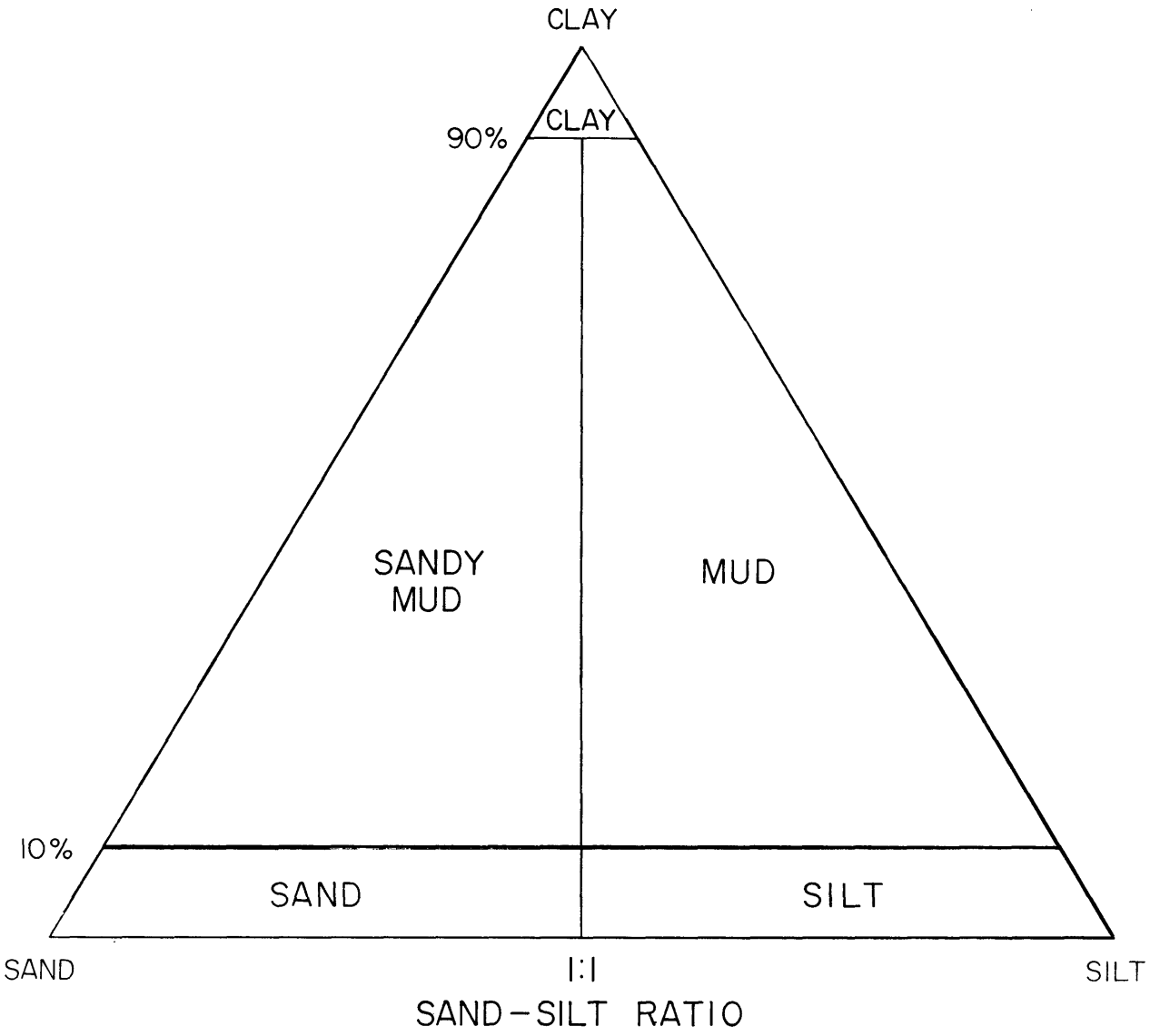


FIGURE 2



CLASSIFICATION OF CLASTIC SEDIMENTS

FIGURE 3

BASAL SEDIMENT AGES

OF ISLAS ORCADAS CRUISE 0775 PISTON CORES

The following text is from a manuscript submitted for publication to the Antarctic Journal of the United States (Ciesielski and Wise, 1977a) and has been included in this volume by the permission of the authors. References cited are to be found in the references section of this volume; italicized statements are those which have been added to the original text.

"As an aid to other investigators wishing to perform detailed studies on ARA ISLAS ORCADAS cores, we present here preliminary basal sediment ages for 45 piston cores taken on ISLAS ORCADAS cruise 0775, the first multidisciplinary cruise (marine geology, physical oceanography and geophysics) of the vessel to the southwest Atlantic sector of the Southern Ocean. This cruise, from Buenos Aires to Buenos Aires, concentrated its activities in the vicinity of the Falkland (Malvinas) Plateau, South Georgia Basin, and peripheral areas. A detailed summary of the cruise and its scientific objectives and accomplishments appear in Warnke et al. (1976). Table 1 *(Table 2, this volume)* lists piston core numbers, latitude, longitude, water depth, sample interval, age, and sediment lithology of the basal sedimentary unit.

Sampling: Fully recovered cores, stored in plastic liners, were sampled within 1 to 6 cm of their base; those with disturbed basal sedimentary sequences were sampled above the disturbed sequence as well. For all such cores sampled in this manner, both samples gave similar ages. Seven cores comprise a second group, from which samples were taken from material retrieved by the core cutter and/or catcher (C/C). This sediment is stored as bag samples.

Laboratory: Smear-slide preparations from each sample were examined from their calcareous nannofossil, diatom, and silicoflagellate contents and were age-dated utilizing the high-latitude biostratigraphic zonations recently summarized by the following workers:

Calcareous nannofossils: Wise and Wind (1977).
Diatoms: McCollum (1975); Gombos (1977); Weaver (1976).
Silicoflagellates: Ciesielski (1975); Busen and Wise (1977).

Paleocene and Quaternary sedimentary sequences were dated using the diatom biostratigraphic zonation of McCollum (1975) which has been used successfully in the southwest Atlantic by Gombos (1977). Weaver's (1976) modification of the early Pliocene portion of McCollum's diatom zonation was utilized where possible.

We emphasize that the sediment age-dates in Table 1 *(Table 2, this volume)* are preliminary in nature. A number of the determinations are based on the examination of only one sample and not on an examination of the entire core. For those cases, it is difficult to detect complicating factors such as reworking or contamination that might lead to an improper age assignment. Investigators planning detailed work on these cores may wish to obtain additional confirmation of the age-dates provided. More detailed age assignments (down to subepoch or biostratigraphic zone) for some of the cruise 0775 cores are given in Ciesielski et al. (1977), and Ciesielski and Wise (1977*b*)."

TABLE 2

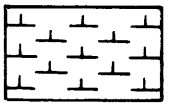
BASAL SEDIMENT AGES OF PISTON CORES

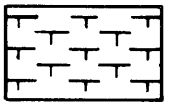
Piston Core Number	Latitude(S)	Longitude(W)	Water Depth(m)	Sample Interval(cm)	Sediment Lithology	Age
1	49°40.9'	40°23.6'	2090	50	sandy gravel	Quaternary
2	49°27.3'	39°37.6'	3336	800;1109	diatomaceous ooze; diatomaceous mud	Early Pliocene
3	49°23.9'	39°12.9'	3299	C/C	gravel	Quaternary
4	47°49.1'	37°02.3'	5616	1035; 1138	diatomaceous mud; mud	Early Pliocene ?
5	48°51.2'	36°33.3'	4895	1167	mud	Early Pliocene
6	48°42.2'	35°03.6'	5087	842; 1006	pelagic clay	Early Pliocene
7	47°57.4'	34°59.6'	5298	1127	muddy, diatomaceous ooze	Quaternary
8	47°46.2'	29°28.5'	4712	C/C	mud	Late Pliocene
9	47°51.3'	29°10.0'	4535	*SEE NOTE, BELOW		*
11	49°58.8'	25°54.9'	4610	1634; 1664	diatomaceous ooze	Quaternary
12	49°29.9'	33°58.6'	5080	1094	diatomaceous mud	Quaternary
13	49°31.1'	34°58.2'	4967	1056	diatomaceous ooze	Quaternary
14	48°48.1'	35°37.6'	4989	184	mud	Quaternary
15	49°31.4'	36°02.2'	4707	696	diatomaceous mud	Quaternary
16	50°36.5'	31°46.0'	4440	891; 1689	diatomaceous ooze	Quaternary
17	50°58.1'	24°39.9'	4139	1130	diatomaceous ooze	Quaternary
18	51°36.9'	27°24.0'	4194	565	diatomaceous mud	Quaternary
20	52°30.4'	31°49.5'	3395	C/C	*SEE NOTE, BELOW	Quaternary
21	52°35.5'	27°16.4'	4639	930; 1079	diatomaceous ooze	Early Pliocene
25	56°34.7'	20°17.2'	5014	1146	diatomaceous ooze	Quaternary
27	57°02.7'	23°34.3'	5020	1107	diatomaceous ooze	Quaternary
29	57°11.6'	25°29.6'	3504	15	diatomaceous ooze	Quaternary
32	56°14.0'	30°36.1'	2933	581	diatomaceous ooze	Quaternary
33	55°11.6'	30°26.4'	4623	255	diatomaceous ooze	Quaternary
34	55°08.2'	31°05.5'	5073	78; 537	diatomaceous ooze	Quaternary
37	52°41.3'	42°05.9'	2782	1006	diatomaceous ooze	Quaternary
38	52°25.8'	42°10.5'	3603	1137	muddy, diatomaceous ooze	Quaternary
39	51°58.4'	42°21.7'	2694	C/C	gravel	Pliocene with reworked Mesozoic ? micrite
40	50°18.2'	43°25.0'	1605	441	diatomaceous, nannofossil ooze	Early Miocene
41	50°00.7'	43°34.7'	2189	C/C	gravel	Quaternary
42	49°52.1'	43°37.8'	2621	C/C	gravel	Late Pliocene
43	50°13.2'	44°08.8'	1713	381; 852	nannofossil ooze	Early Oligocene
44	50°18.5'	44°31.7'	1651	687	nannofossil ooze	Campanian/Maestrichtian
45	50°25.0'	44°52.4'	1621	474	radiolarian-nannofossil ooze	Late Paleocene
46	50°27.8'	44°57.2'	1599	303	nannofossil ooze	Late Paleocene
47	50°32.9'	45°18.4'	1517	280	radiolarian, nannofossil ooze	Early Miocene
48	50°38.5'	46°04.7'	1493	392	diatomaceous, nannofossil ooze	Late Miocene
49	50°44.1'	46°20.2'	1784	461	nannofossil, diatomaceous ooze	Late Miocene
50	50°51.5'	46°46.1'	2344	159	pelagic clay	Eocene (Early ?)
51	50°57.3'	47°02.1'	2547	63	muddy, diatomaceous ooze	Early Pliocene
52	50°54.7'	46°50.0'	2558	133	muddy, diatomaceous ooze	Early Pliocene
53	50°52.0'	46°36.6'	2229	177; 191	diatomaceous ooze; gravelly, siliceous ooze	Late Miocene
54	50°36.0'	46°23.1'	1856	275; 365	diatomaceous, nannofossil ooze	Late Miocene
55	50°38.0'	46°39.1'	2255	341	diatomaceous, nannofossil ooze	Late Miocene
56	50°35.0'	47°27.2'	2637	9	manganese nodule with mud	Oligocene
57	50°34.9'	47°30.7'	2525	65	radiolarian, diatomaceous mud with manganese	Early Pliocene

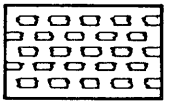
*NOTE: Two piston cores, 0775-9 and -20, remain unopened, and therefore undescribed, due to special handling and sampling requirements of a principal investigator, Dr. Detlef Warnke. Bottom sediment from one of these, 0775-9, is not available for dating at this time. C/C in the sample interval column denotes that dated sample was from the core cutter and/or catcher.

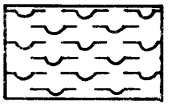
KEY

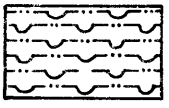
SYMBOLS USED FOR CORE DESCRIPTIONS

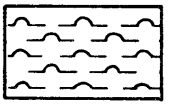

Nannofossil Ooze

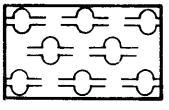

Foraminiferal Ooze

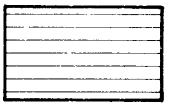

Calcareous Ooze

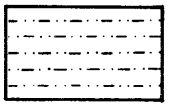

Diatomaceous Ooze

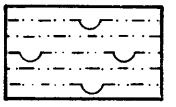

Muddy Diatomaceous Ooze

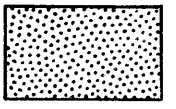

Radiolarian Ooze

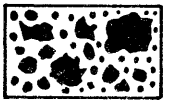

Siliceous Ooze

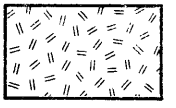

Pelagic Clay

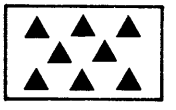

Mud

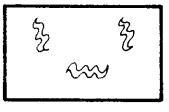

Diatomaceous Mud

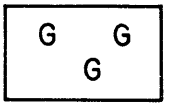

Sand


Gravel, granules, pebbles, rocks, rock fragments


Volcanic Ash, Volcanoclastics

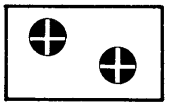

Chert


Bioturbation

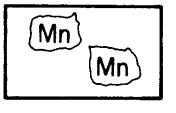


Glauconite


Mottling


Sedimentary Clasts


Slightly Disturbed



Manganese Nodule


Very Disturbed

Gradational Contact

Sharp Contact

NOTE: Variations in scale of the lithology columns are necessitated by a desire to limit a core description to no more than two pages.

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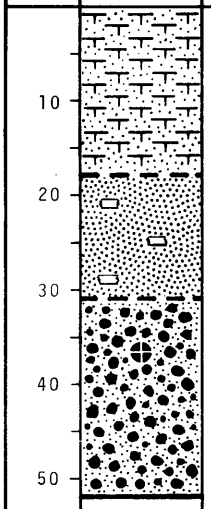

LATITUDE: 49°40.9′ S CORR. DEPTH: 2090 M; 1142 FM.

LONGITUDE: 40°23.6′ W CORE LENGTH: 52 CM

LITHOLOGIC DESCRIPTION

0-18 cm: Sandy, foraminiferal ooze, light olive gray (5Y 6/1); scattered micromanganese nodules; top 10 cm disturbed (slightly washed); gradational contact.

smear slide: 4 cm

Quartz and Feldspar	32	Foraminifera	45
Heavy minerals	<1	Calcareous nannos	<1
Clay	5	Diatoms	8
Volcanic glass	4	Sponge spicules	2
Micro-Mn nodules	3		

Percent Carbonate (4-5 cm): 27.2

18-31 cm: Calcareous sand, olive black (5Y 2/1); rich in micromanganese nodules; sand becomes coarser with depth; gradational contact.

smear slide: 23 cm

Quartz and Feldspar	35
Volcanic glass	3
Micro-Mn nodules	40
Foraminifera	20
Diatoms	2

Percent Carbonate (23-24 cm): 8.9

31-52 cm: Sandy gravel, olive black (5Y 2/1); rich in micromanganese nodules; some foraminifera and a sedimentary clast composed of diatomaceous mud at 35 cm.

Bottom topography: gently sloping, northeastern flank of Maurice Ewing Bank.

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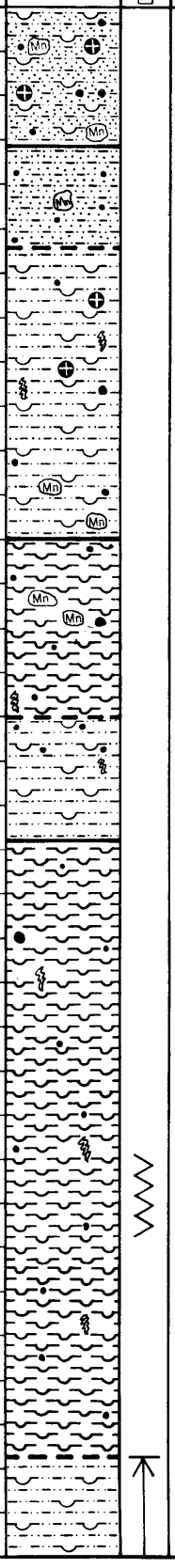

LATITUDE: 49°27.3' S CORR. DEPTH: 3336 M, 1823 FM.

LONGITUDE: 39°37.6' W CORE LENGTH: 1111 CM

LITHOLOGIC DESCRIPTION

0-79 cm: Sandy, diatomaceous mud, olive gray (5Y 4/1); scattered gravel (to 3 cm), manganese nodules (to 5 cm), iron-manganese concretions (to 2 cm) and sedimentary clasts; sharp contact.

smear slides:	8 cm	65 cm		8 cm	65 cm
Quartz and Feldspar	20	20	Diatoms	25	35
Heavy minerals	<1	-	Radiolarians	<1	<1
Clay	53	40	Sponge spicules	<1	1
Volcanic glass	2	1	Silicoflagellates	<1	<1
Micro-Mn nodules	<1	2			

79-138 cm: Sandy mud, light olive gray (5Y 5/2); scattered gravel and manganese nodules; gradational contact.

smear slide:	94 cm		
Quartz and Feldspar	25	Diatoms	8
Heavy minerals	<1	Radiolarians	1
Clay	62	Sponge spicules	<1
Volcanic glass	3	Silicoflagellates	<1

138-299 cm: Diatomaceous mud, dusky yellow (5Y 6/4); scattered gravel (to 1 cm); manganese nodules at 272 and 288 cm; some sedimentary clasts; slightly bioturbated; sharp contact.

smear slides:	184 cm	233 cm	268 cm
Quartz and Feldspar	15	5	5
Heavy minerals	2	1	-
Clay	65	45	54
Volcanic glass	3	2	5
Diatoms	15	45	35
Radiolarians	<1	2	1
Sponge spicules	<1	<1	<1
Silicoflagellates	<1	-	<1

299-402 cm: Diatomaceous ooze, dusky yellow (5Y 6/4) to yellowish gray (5Y 7/2); scattered gravel (to 5 mm); manganese nodules at 333 and 340 cm; gravel (4 cm) at 345 cm; slightly bioturbated; gradational contact.

smear slides:	315 cm	375 cm		315 cm	375 cm
Quartz and Feldspar	5	23	Diatoms	75	60
Clay	15	10	Radiolarians	1	2
Volcanic glass	3	2	Sponge spicules	-	1
Micro-Mn nodules	-	<1	Silicoflagellates	1	2

402-474 cm: Diatomaceous mud, dusky yellow (5Y 6/4) to yellowish gray (5Y 7/2); scattered gravel (to 3 cm) from 402-425 cm; slightly bioturbated; sharp contact.

smear slide:	436 cm		
Quartz and Feldspar	4	Diatoms	25
Heavy minerals	<1	Radiolarians	<1
Clay	67	Sponge spicules	<1
Volcanic glass	3	Silicoflagellates	<1

474-817 cm: Diatomaceous ooze, light olive gray (5Y 5/2); gravel (5 cm) at 522 cm; scattered gravel (to 5 mm); disturbed interval (watery mud) 655-685 cm; slightly bioturbated; gradational contact.

smear slides:	496 cm	547 cm	608 cm	751 cm
Quartz and Feldspar	4	<1	7	5
Heavy minerals	-	-	<1	<1
Clay	19	9	15	19
Volcanic glass	3	<1	4	4
Micro-Mn nodules	<1	-	<1	<1
Diatoms	70	88	71	70
Radiolarians	2	<1	1	1
Sponge spicules	<1	<1	-	<1
Silicoflagellates	1	1	1	<1

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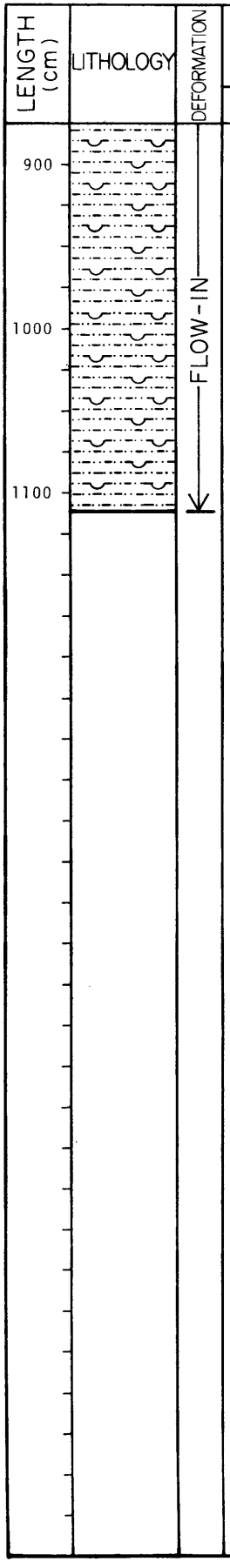

LATITUDE: 49°27.3′ S CORR. DEPTH: 3336 M, 1823 FM.

LONGITUDE: 39°37.6′ W CORE LENGTH: 1111 CM

LITHOLOGIC DESCRIPTION

CONTINUED

817-1111 cm: Diatomaceous mud, dusky yellow (5Y 6/4); flow-in.

smear slide: 820 cm

Quartz and Feldspar	30	Diatoms	25
Heavy minerals	2	Radiolarians	1
Clay	38	Sponge spicules	<1
Volcanic glass	4	Silicoflagellates	<1

Bottom topography: moderately sloping, northeastern flank of Maurice Ewing Bank.

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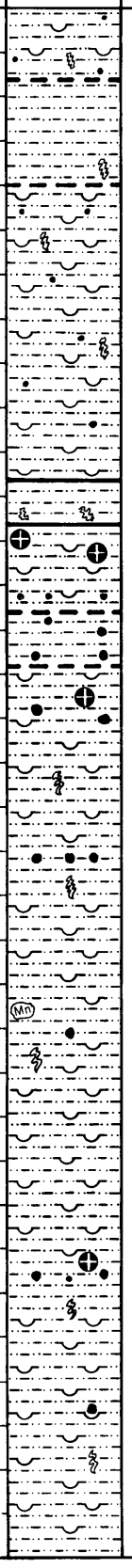

LATITUDE: 47°49.1' S CORR. DEPTH: 5616 M, 3069 FM.

LONGITUDE: 37°02.3' W CORE LENGTH: 1142 CM

LITHOLOGIC DESCRIPTION

0-40 cm: Diatomaceous mud, dark yellowish brown (10YR 4/2); scattered gravel (to 5 mm); slightly bioturbated; gradational contact.

smear slide:	12 cm		
Quartz and Feldspar	10	Diatoms	25
Heavy minerals	<1	Radiolarians	<1
Clay	60	Sponge spicules	1
Volcanic glass	2	Silicoflagellates	<1
Micro-Mn nodules	1		

40-100 cm: Mud, light olive gray (5Y 6/1); slightly bioturbated; micromanganese nodules increasing with depth; gradational contact.

smear slide:	65 cm		
Quartz and Feldspar	6	Diatoms	5
Heavy minerals	1	Radiolarians	<1
Clay	80	Sponge spicules	1
Volcanic glass	5	Silicoflagellates	<1
Micro-Mn nodules	1		

100-266 cm: Diatomaceous mud, light olive gray (5Y 5/2); color change to pale yellowish brown (10YR 6/2) between 250 and 265 cm; scattered gravel (to 2 cm); slightly bioturbated; sharp contact.

smear slides:	131 cm	228 cm		131 cm	228 cm
Quartz and Feldspar	10	15	Diatoms	25	20
Heavy minerals	2	1	Radiolarians	1	-
Clay	57	60	Sponge spicules	<1	-
Volcanic glass	3	4	Silicoflagellates	<1	<1
Micro-Mn nodules	1	-			

266-289 cm: Mud, light olive gray (5Y 6/1); bottom portion bioturbated; sharp contact.

smear slide:	272 cm		
Quartz and Feldspar	4	Diatoms	5
Heavy minerals	1	Radiolarians	1
Clay	85	Sponge spicules	<1
Volcanic glass	4	Silicoflagellates	<1

289-340 cm: Diatomaceous mud, light olive gray (5Y 5/2); a rounded, sedimentary clast at 295-297 cm; altered sedimentary clast at 302-305 cm; gravel at 330 cm; gradational contact.

smear slide:	309 cm		
Quartz and Feldspar	6	Diatoms	30
Heavy minerals	2	Radiolarians	4
Clay	56	Sponge spicules	<1
Volcanic glass	2	Silicoflagellates	<1

340-371 cm: Mud, olive gray (5Y 4/1); scattered gravel (to 3 mm); micromanganese nodules increasing with depth; gradational contact.

smear slide:	347 cm		
Quartz and Feldspar	5	Diatoms	10
Heavy minerals	3	Radiolarians	2
Clay	77	Sponge spicules	<1
Volcanic glass	3	Silicoflagellates	<1
Micro-Mn nodules	<1		

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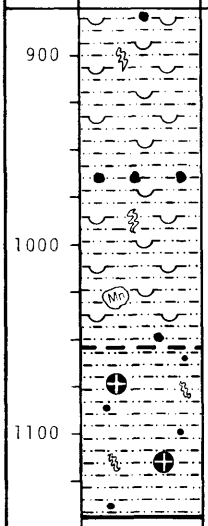


LATITUDE: 47°49.1′ S CORR. DEPTH: 5616 M, 3069 FM.

LONGITUDE: 37°02.3′ W CORE LENGTH: 1142 CM

LITHOLOGIC DESCRIPTION

CONTINUED

371-1055 cm: Diatomaceous mud, pale yellowish brown (10 YR 6/2); zones of mud between 490 and 520 cm; gravel (3 cm) and manganese-coated gravel at 400, 480, 715, 965 cm; manganese nodule at 565 and 1025 cm; sedimentary clast at 390 and 710 cm; scattered gravel (to 4 mm); bioturbated; gradational contact.

smear slides:	426 cm	516 cm	590 cm	667 cm	712 cm
Quartz and Feldspar	3	4	5	7	8
Heavy minerals	2	1	2	1	1
Clay	65	82	72	56	60
Volcanic glass	2	3	4	3	4
Micro-Mn nodules	-	<1	<1	<1	<1
Diatoms	25	7	15	30	26
Radiolarians	1	2	2	2	1
Sponge spicules	1	<1	<1	<1	<1
Silicoflagellates	1	1	<1	1	<1

	810 cm	852 cm	950 cm	1030 cm
Quartz and Feldspar	4	10	5	9
Heavy minerals	1	1	2	2
Clay	58	70	64	67
Volcanic glass	2	2	3	5
Micro-Mn nodules	-	<1	-	<1
Diatoms	35	14	23	15
Radiolarians	1	2	2	2
Sponge spicules	-	<1	<1	<1
Silicoflagellates	<1	<1	1	<1

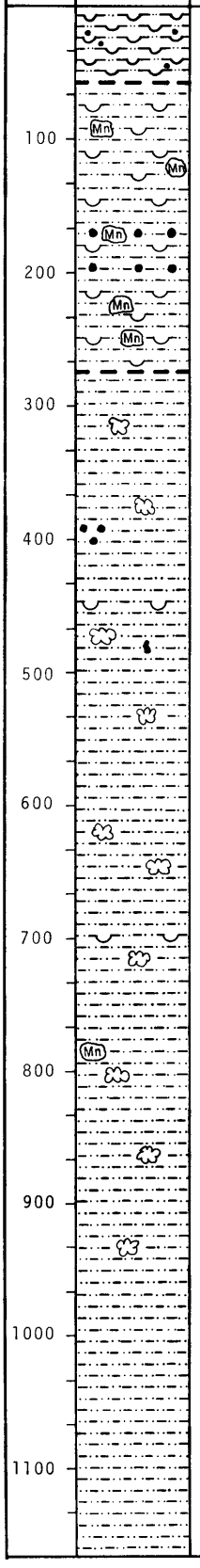
1055-1142 cm: Mud, pale yellowish brown (10YR 6/2); with highly indurated sedimentary clasts, light olive brown (5Y 5/6), composed of diatomaceous mud; scattered gravel (to 1 cm); bioturbated.

smear slides:	1088 cm	1138 cm		1088 cm	1138 cm
Quartz and Feldspar	2	5	Diatoms	10	20
Heavy minerals	1	1	Radiolarians	1	4
Clay	81	64	Sponge spicules	<1	1
Volcanic glass	3	5	Silicoflagellates	1	<1
Micro-Mn nodules	<1	<1			

Bottom topography: flat, abyssal plain northwest of gap in Falkland (Malvinas) Fracture Zone.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-5



LATITUDE: 48°51.2′ S CORR. DEPTH: 4895 M, 2675 FM.

LONGITUDE: 36°33.3′ W CORE LENGTH: 1169 CM

LITHOLOGIC DESCRIPTION

0-55 cm: Muddy, diatomaceous ooze, color varies from dark yellowish brown (10YR 4/2) at top to moderate yellowish brown (10YR 5/4) at bottom; mottled; scattered rock fragments with manganese coating (to 1 cm) and micromanganese nodules; gradational contact.

smear slide:	27 cm		
Quartz and Feldspar	35	Diatoms	46
Clay	15	Radiolarians	<1
Volcanic glass	3	Sponge spicules	<1

55-274 cm: Diatomaceous mud, moderate yellowish brown (10YR 5/4); scattered manganese nodules (to 2 cm); scattered micromanganese nodules; rock fragments with manganese encrustations (to 3 cm) between 168 and 175 cm, and between 190 and 200 cm; sand locally abundant; gradational contact.

smear slides:	185 cm	247 cm		185 cm	247 cm
Quartz and Feldspar	20	7	Diatoms	30	40
Heavy minerals	2	3	Radiolarians	7	2
Clay	30	30	Sponge spicules	2	2
Volcanic glass	7	15	Silicoflagellates	1	<1
Micro-Mn nodules	1	1			

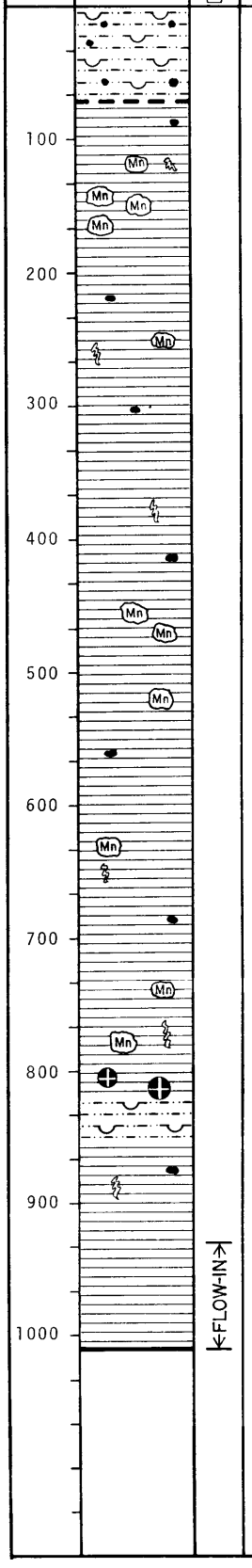
274-1169: Mud, color varies from 10YR 5/4 to 10YR 4/2; mottling between 275 and 940 cm; rock fragments with manganese encrustation from 390 to 405 cm, and at 485 cm; manganese nodule at 789-791 cm; manganese-rich clay from 815 to 818 cm; small manganese nodules occur locally; scattered micromanganese nodules; volcanic glass increases with depth; diatom-rich zones from 430 to 455 and 690 to 710 cm.

smear slides:	290 cm	448 cm	534 cm	690 cm	843 cm	894 cm	951 cm	977 cm
Quartz and Feldspar	30	10	50	2	5	10	2	10
Heavy minerals	2	1	2	-	<1	-	-	2
Clay	40	25	19	41	76	36	12	20
Volcanic glass	15	15	15	25	10	40	80	50
Micro-Mn nodules	2	1	-	-	<1	1	-	1
Diatoms	10	35	10	25	5	7	5	15
Radiolarians	<1	10	2	4	2	3	<1	1
Sponge spicules	<1	2	-	2	1	2	-	<1
Silicoflagellates	<1	1	2	1	-	1	<1	<1

Bottom topography: undulating abyssal plain, flank of 80 fm rise north of gap in Falkland (Malvinas) Fracture Zone.

Logged by: Kaharoeddin, DeFelice, Abrahams, Campbell, MacKenzie

ISLAS ORCADAS PC 0775-6



LATITUDE: 48°42.2′ S CORR. DEPTH: 5087 M, 2780 FM.

LONGITUDE: 35°03.6′ W CORE LENGTH: 1009 CM

LITHOLOGIC DESCRIPTION

0-71 cm: Diatomaceous mud, dark yellowish brown (10YR 4/2); scattered gravel (to 2 cm) from 0 to 11 cm; scattered gravel (to 5 mm); gradational contact.

smear slide:	30 cm		
Quartz and Feldspar	15	Micro-Mn nodules	<1
Clay	64	Diatoms	18
Volcanic glass	3	Sponge spicules	<1

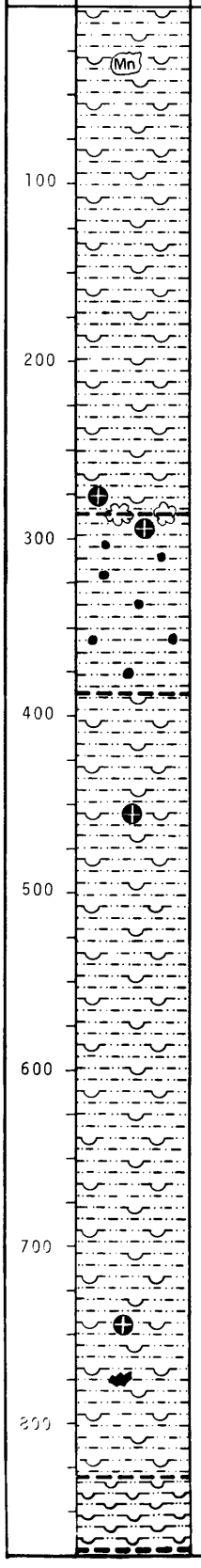
71-1009 cm: Pelagic clay, pale yellowish brown (10YR 6/2) to dark yellowish brown (10 YR 4/2); zones of diatomaceous mud, moderate yellowish brown (10YR 5/4) from 810 to 850 cm; scattered gravel (to 3 cm); manganese nodules (to 5 cm) at 110, 144, 152, 168, 255, 458, 470, 519, 630, 740 and 776 cm; sedimentary clasts at 810 cm; bioturbated; bottom 79 cm (930 to 1009 cm) of unit disturbed (flow-in); gradational change to flow-in.

smear slides:	131 cm	379 cm	487 cm	569 cm	765 cm	844 cm	942 cm
Quartz and Feldspar	6	5	25	20	9	15	10
Heavy minerals	-	-	-	<1	-	<1	-
Clay	80	81	56	65	66	48	75
Volcanic glass	3	1	3	3	3	<1	4
Micro-Mn nodules	1	2	1	2	<1	1	1
Diatoms	8	10	12	8	20	35	9
Radiolarians	-	-	-	-	-	-	-
Sponge spicules	2	1	3	2	1	1	1
Silicoflagellates	-	-	-	-	<1	-	<1

Bottom topography: undulating (100-150 fm. relief), southeastern portion of gap in Falkland (Malvinas) Fracture Zone.

Logged by: Kaharoeddin, M. Weaver

ISLAS ORCADAS PC 0775-7



LATITUDE: 47°57.4' S CORR. DEPTH: 5298 M, 2895 FM.

LONGITUDE: 34°59.6' W CORE LENGTH: 1130 CM

LITHOLOGIC DESCRIPTION

0-285 cm: Diatomaceous mud, 0-89 cm dark yellowish brown (10YR 4/2), 89-154 cm pale yellowish brown (10YR 6/2) with higher diatom content, 154-285 cm light olive brown (5Y 5/6); bands of darker sediment from 128 to 140 cm and 154 to 166 cm; rich in fine iron-manganese oxide particles; scattered iron-manganese oxide crusts (to 3 mm) from 0 to 100 cm; a manganese nodule fragment at 38 cm; sedimentary clast at 270 cm; mottled gradational contact.

smear slides:	8 cm	72 cm	118 cm	158 cm	189 cm	255 cm
Quartz and Feldspar	30	5	5	5	8	8
Heavy minerals	1	-	-	<1	-	-
Clay	30	60	43	53	61	55
Volcanic glass	8	1	1	3	5	2
Micro-Mn nodules	1	1	1	3	<1	1
Diatoms	25	31	48	36	25	30
Radiolarians	2	2	2	<1	<1	2
Sponge spicules	2	<1	<1	<1	1	<1
Silicoflagellates	1	-	-	<1	-	2

285-388 cm: Mud, dusky yellow green (5GY 5/2); sedimentary clast with manganese oxide coating at 291 cm; scattered gravel (to 5 mm); gradational contact.

smear slide:	336 cm		
Quartz and Feldspar	7	Diatoms	3
Heavy minerals	<1	Radiolarians	<1
Clay	84	Sponge spicules	<1
Volcanic glass	5	Silicoflagellates	<1

388-830 cm: Diatomaceous mud, 388-488 cm grayish olive (10Y 4/2); 488-532 cm dusky yellow green (5GY 5/2), 532-830 cm grayish olive (10Y 4/2); rounded sedimentary clasts with manganese oxide coating at 454 and 747 cm; angular fragment of basalt (1.5 cm) at 775 cm; gradational contact.

smear slides:	431 cm	497 cm	608 cm	704 cm	773 cm
Quartz and Feldspar	10	8	6	10	5
Heavy minerals	-	-	1	2	1
Clay	52	50	70	39	70
Volcanic glass	-	2	4	2	2
Micro-Mn nodules	<1	-	2	1	1
Diatoms	36	33	15	42	20
Radiolarians	2	3	2	4	1
Sponge spicules	<1	2	<1	<1	<1
Silicoflagellates	-	2	<1	<1	<1

830-873 cm: Muddy, diatomaceous ooze, dusky yellow green (5GY 5/2); gradational contact.

smear slide:	865 cm		
Quartz and Feldspar	2	Diatoms	51
Heavy minerals	1	Radiolarians	5
Clay	37	Sponge spicules	1
Volcanic glass	2	Silicoflagellates	1

873-1089 cm: Diatomaceous mud, grayish olive (10Y 4/2); sedimentary clast at 976 cm; gradational contact.

smear slides:	962 cm	1070 cm		962 cm	1070 cm
Quartz and Feldspar	15	15	Diatoms	13	16
Heavy minerals	1	1	Radiolarians	2	2
Clay	63	60	Sponge spicules	1	1
Volcanic glass	2	4	Silicoflagellates	1	1
Micro-Mn nodules	2	-			

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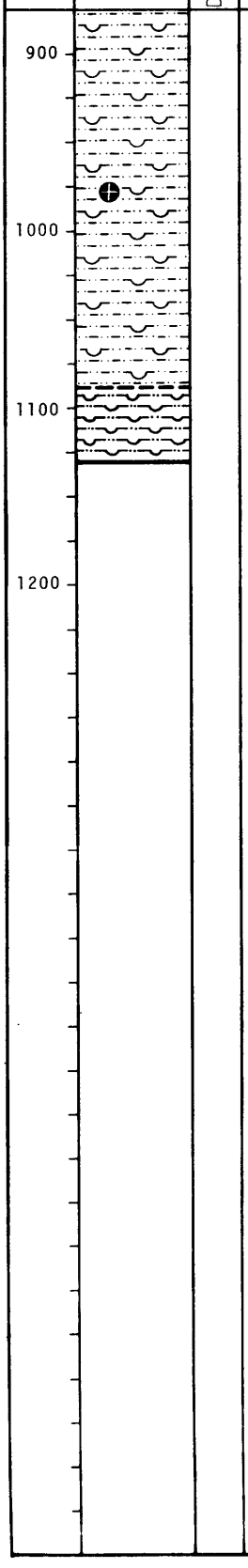
ISLAS ORCADAS PC 0775-7



LATITUDE: 47°57.4' S CORR. DEPTH: 5298 M, 2895 FM.

LONGITUDE: 34°59.6'W CORE LENGTH: 1130 CM

LITHOLOGIC DESCRIPTION

CONTINUED

1089-1130 cm: Muddy, diatomaceous ooze, light olive gray (5Y 5/2).

smear slide:	1129 cm		
Quartz and Feldspar	5	Micro-Mn nodules	<1
Heavy minerals	<1	Diatoms	55
Clay	33	Radiolarians	3
Volcanic glass	2	Sponge spicules	2

Bottom topography: flat abyssal plain (maximum relief 40 fm), northeast of gap in Falkland (Malvinas) Fracture Zone.

Logged by: **Kaharoeddin**, M. Weaver, Zemmels, MacKenzie

ISLAS ORCADAS PC 0775-9

LENGTH (cm)	LITHOLOGY	DEFORMATION	LATITUDE: 47°51.3′ S	CORR. DEPTH: 4535 M, 2478 FM.
			LONGITUDE: 29°10.0′ W	CORE LENGTH: 1129 CM*

LITHOLOGIC DESCRIPTION

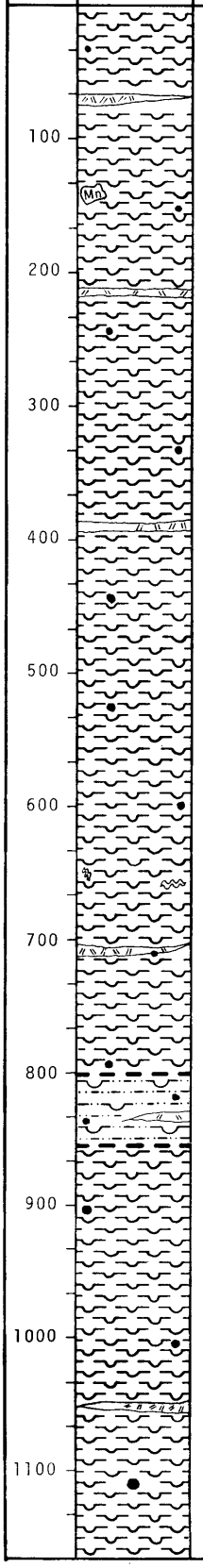
NOTE

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

*Undescribed core length

Logged by:

ISLAS ORCADAS PC 0775-11



LATITUDE: 49°58.8′ S CORR. DEPTH: 4610 M, 2519 FM.

LONGITUDE: 25°54.9′ W CORE LENGTH: 1667 CM

LITHOLOGIC DESCRIPTION

0-801 cm: Diatomaceous ooze, light olive gray (5Y 5/2) to greenish gray (5GY 6/1); scattered micromanganese nodules; some scattered gravel (to 5 mm); intermittent volcanoclastic laminae between 55 and 720 cm; slightly bioturbated between 643 and 680 cm; manganese nodule (1 cm) at 145 cm; gradational contact.

smear slides:	5 cm	52 cm	107 cm	195 cm	290 cm
Quartz and Feldspar	7	4	7	3	8
Heavy minerals	3	2	2	1	-
Clay	5	11	10	5	3
Volcanic glass	2	1	2	1	-
Micro-Mn nodules	1	-	1	-	-
Carbonate unspecified	3	8	<1	1	<1
Calcareous nannos	<1	-	-	-	<1
Diatoms	76	72	75	87	86
Radiolarians	2	1	2	1	1
Sponge spicules	<1	-	-	-	-
Silicoflagellates	1	1	1	1	1
Percent Carbonate:	2.4	2.7	3.0	2.9	2.0

	431 cm	515 cm	664 cm	706 cm
Quartz and Feldspar	1	2	15	4
Heavy minerals	<1	1	3	1
Clay	3	2	-	5
Volcanic glass	-	2	15	1
Micro-Mn nodules	2	<1	1	<1
Carbonate unspecified	<1	1	<1	<1
Calcareous nannos	<1	-	-	-
Diatoms	91	89	64	86
Radiolarians	1	1	<1	2
Sponge spicules	-	-	<1	-
Silicoflagellates	<1	1	<1	1
Percent Carbonate:	3.0	2.6	3.0	2.7

(Above carbonate values from samples taken over 2 cm intervals; ie., 5-7 cm, 52-54 cm, etc.)

801-860 cm: Diatomaceous mud, grayish olive (10Y 4/2); some scattered gravel (to 5 mm) and volcanoclastic laminae; gradational contact.

smear slide:	811 cm		
Quartz and Feldspar	5	Carbonate unspecified	<1
Heavy minerals	5	Diatoms	45
Clay	31	Radiolarians	1
Volcanic glass	10	Silicoflagellates	<1
Micro-Mn nodules	2		

Percent Carbonate (811-813 cm): 2.7

860-1314 cm: Diatomaceous ooze, light olive gray (5Y 5/2) to moderate olive brown (5Y 4/4); some scattered gravel (to 5 mm) and micromanganese nodules; intermittent volcanoclastic laminae; three zones of manganese concentrations between 920 and 970 cm; entire unit consists of several sub-units with distinct color; sharp contact.

smear slides:	907 cm	995 cm	1110 cm	1166 cm	1293 cm
Quartz and Feldspar	6	3	8	6	8
Heavy minerals	1	1	2	2	1
Clay	4	3	10	20	7
Volcanic glass	2	1	2	7	3
Micro-Mn nodules	1	1	-	1	1
Carbonate unspecified	<1	-	-	-	-
Calcareous nannos	<1	-	-	-	-
Diatoms	83	87	77	64	75
Radiolarians	1	2	1	<1	4
Silicoflagellates	1	2	<1	-	1

Percent Carbonate (907-909 cm): 2.2

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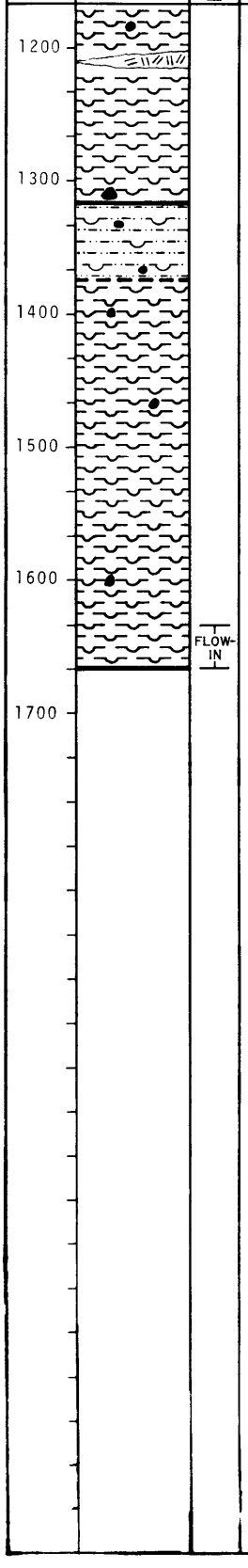
Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-11



LATITUDE: 49°58.8' S CORR. DEPTH: 4610 M, 2519 FM.

LONGITUDE: 25°54.9' W CORE LENGTH: 1667 CM

LITHOLOGIC DESCRIPTION

CONTINUED

1314-1374 cm: Diatomaceous mud, grayish olive (10Y 4/2); scattered micromanganese nodules and gravel (to 5 mm); gradational contact.

smear slide:	1348 cm
Quartz and Feldspar	45
Heavy minerals	3
Clay	10
Volcanic glass	15
Micro-Mn nodules	1
Carbonate unspecified	<1
Diatoms	25
Radiolarians	<1
Silicoflagellates	<1

Percent Carbonate (1348-1350 cm): 2.6

1374-1667 cm: Diatomaceous ooze, medium light gray (N 6) to olive gray (5Y 4/1); some scattered micromanganese nodules and gravel (to 5 mm); manganese concentration at 1560 cm; bottom 31 cm of unit (1636 to 1667 cm) disturbed (flow-in).

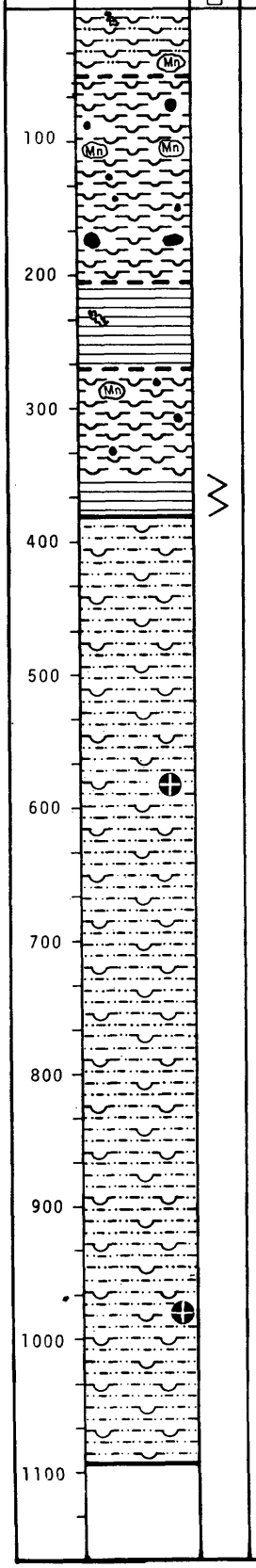
smear slides:	1454 cm	1614 cm
Quartz and Feldspar	3	4
Heavy minerals	2	1
Clay	3	1
Volcanic glass	2	1
Micro-Mn nodules	1	<1
Carbonate unspecified	<1	-
Diatoms	87	90
Radiolarians	1	2
Silicoflagellates	<1	1

Percent Carbonate (1454-1456 cm): 2.6

Bottom topography: undulating abyssal plain, east of Islas Orcadas Rise.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-12



LATITUDE: 49°29.9′ S CORR. DEPTH: 5080 M; 2776 FM.

LONGITUDE: 33°58.6′ W CORE LENGTH: 1096 CM

LITHOLOGIC DESCRIPTION

0-55 cm: Muddy, diatomaceous ooze, light olive gray (5Y 5/2); slightly bioturbated at 10 cm; manganese nodules from 50 to 55 cm; gradational contact.

smear slide:	30 cm		
Quartz and Feldspar	2	Diatoms	56
Clay	40	Radiolarians	<1
Volcanic glass	1		

55-205 cm: Diatomaceous ooze, pale yellowish brown (10YR 6/2); manganese nodules (to 4 cm) between 100 and 120 cm; some gravel (3 cm) between 170 and 180 cm; scattered gravel (to 5 mm); gradational contact.

smear slide:	132 cm		
Quartz and Feldspar	5	Radiolarians	<1
Volcanic glass	1	Sponge spicules	<1
Diatoms	93	Silicoflagellates	<1

205-270 cm: Pelagic clay, light olive gray (5Y 5/2), slightly bioturbated; gradational contact.

smear slide:	210 cm		
Quartz and Feldspar	12	Diatoms	20
Clay	60	Radiolarians	2
Volcanic glass	2	Sponge Spicules	3
		Silicoflagellates	1

270-377 cm: Diatomaceous ooze, pale yellowish brown (10YR 6/2); some scattered gravel; manganese nodules between 275 and 280 cm; disturbed, pelagic clay unit (watery) from 350 to 377 cm, light olive gray (5Y 5/2); sharp contact.

smear slides:	283 cm	354 cm		283 cm	354 cm
Quartz and Feldspar	5	7	Radiolarians	10	1
Clay	15	74	Sponge spicules	2	1
Volcanic glass	-	5	Silicoflagellates	4	<1
Diatoms	64	12			

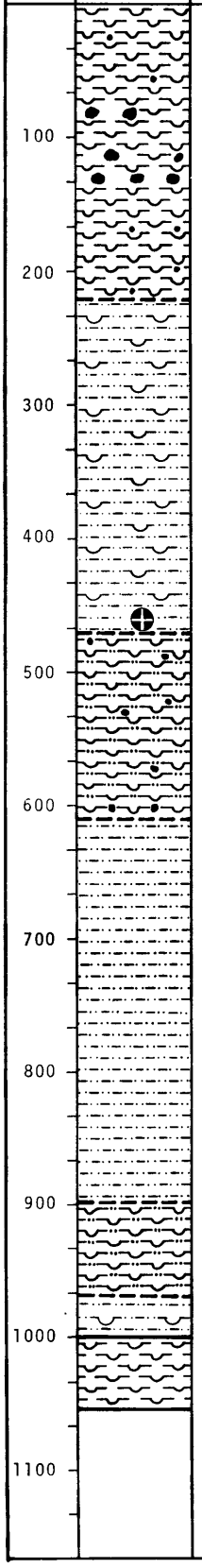
377-1096 cm: Diatomaceous mud, grayish olive (10Y 4/2) to dark greenish gray (5GY 4/1); intercalated with pelagic clay (same color, diffuse boundaries); decomposed shale clast at 582 and 972 cm.

smear slides:	430 cm	530 cm	604 cm	653 cm	682 cm	907 cm	1077 cm
Quartz and Feldspar	7	3	35	2	6	15	5
Clay	55	63	10	76	55	30	48
Volcanic glass	<1	2	-	3	2	-	2
Diatoms	35	25	40	15	30	50	40
Radiolarians	1	7	15	1	6	5	4
Sponge spicules	<1	<1	-	3	<1	-	<1
Silicoflagellates	<1	-	<1	<1	1	<1	<1

Bottom topography: flat, Falkland (Malvinas) Outer Basin abyssal plain, southeast of gap in Falkland Fracture Zone.

Logged by: Kaharoeddin, MacKenzie, Campbell, DeFelice

ISLAS ORCADAS PC 0775-13



LATITUDE: 49°31.1′ S CORR. DEPTH: 4967 M, 2714 FM.

LONGITUDE: 34°58.2′ W CORE LENGTH: 1058 CM

LITHOLOGIC DESCRIPTION

0-220 cm: Diatomaceous ooze, light gray (5Y 5/2) to yellowish gray (5Y 7/2); scattered gravel (to 5 mm); gravel (to 3.5 cm) from 75 to 145 cm; gradational contact.

smear slides:	10 cm	84 cm	114 cm	181 cm
Quartz and Feldspar	3	3	2	2
Clay	15	10	15	10
Volcanic glass	1	1	2	1
Diatoms	80	84	79	82
Radiolarians	<1	2	2	5
Silicoflagellates	<1	<1	<1	<1

220-469 cm: Diatomaceous mud, moderate olive brown (5Y 4/4); sharp color change to grayish olive (10Y 4/2) at 311 cm; disturbed unit (watery) from 289 to 304 cm; decomposed shale clast at 466 cm; gradational contact.

smear slides:	227 cm	281 cm	370 cm
Quartz and Feldspar	4	15	4
Clay	46	40	55
Volcanic glass	3	1	1
Diatoms	40	43	40
Radiolarians	7	<1	<1
Sponge spicules	-	<1	-
Silicoflagellates	<1	<1	<1

469-610 cm: Muddy, diatomaceous ooze, dark greenish gray (5G 4/1); scattered gravel (to 5 mm); gradational contact.

smear slide:	495 cm		
Quartz and Feldspar	5	Diatoms	66
Clay	25	Radiolarians	1
Volcanic glass	1	Sponge spicules	2
		Silicoflagellates	<1

610-900 cm: Mud, grayish olive (10Y 4/2); some coarse sand; gradational contact.

smear slides:	626 cm	725 cm		626 cm	725 cm
Quartz and Feldspar	25	24	Diatoms	5	4
Clay	65	62	Radiolarians	2	2
Volcanic glass	2	5	Sponge spicules	1	3
			Silicoflagellates	-	<1

900-970 cm: Muddy, diatomaceous ooze, grayish olive (10Y 4/2); gradational contact.

smear slide:	906 cm		
Quartz and Feldspar	2	Diatoms	52
Clay	45	Radiolarians	1
Volcanic glass	<1	Silicoflagellates	<1

970-1001 cm: Diatomaceous mud, dark greenish gray (5GY 4/1); sharp contact.

smear slides:	981 cm		
Quartz and Feldspar	8	Radiolarians	3
Clay	62	Sponge spicules	1
Diatoms	25	Silicoflagellates	1

1001-1058 cm: Diatomaceous ooze, grayish olive (10Y 4/2); coarser texture towards bottom.

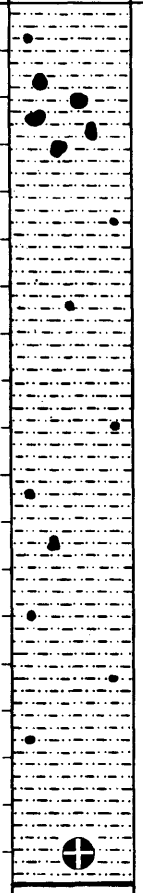
smear slides:	1056 cm		
Quartz and Feldspar	1 2	Diatoms	82
Clay	14	Radiolarians	1
Volcanic glass	1		

Bottom topography: flat, Falkland (Malvinas) Outer Basin abyssal plain southeast of gap in Falkland Fracture Zone.

Logged by: Kaharoeddin, Campbell, MacKenzie, DeFelice

ISLAS ORCADAS PC 0775-14

LENGTH (cm) | LITHOLOGY | DEFORMATION



LATITUDE: 48°48.1′ S CORR. DEPTH: 4989 M, 2726 FM.

LONGITUDE: 35°37.6′ W CORE LENGTH: 187 CM

LITHOLOGIC DESCRIPTION

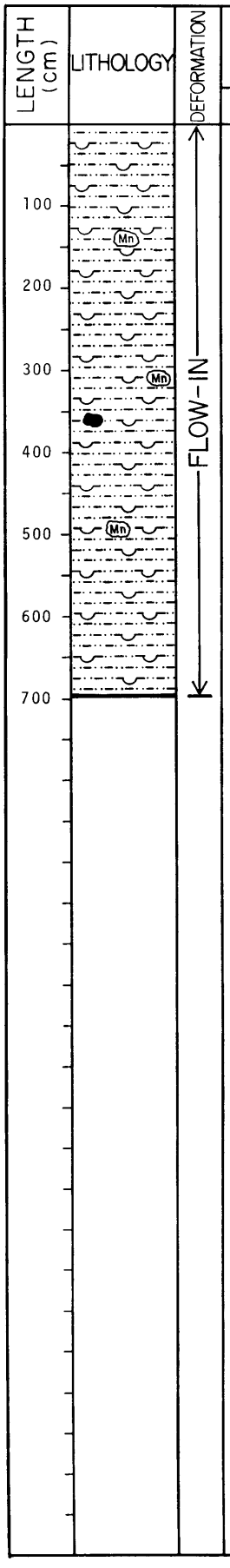
0-187 cm: Mud, moderate yellowish brown (10YR 5/4); scattered granules; large pebbles (5 cm) coated with iron-manganese oxide from 16 to 35 cm and at 115 cm; a shale clast (5 cm) coated with iron-manganese oxide at 182 cm.

smear slides:	7 cm	77 cm	170 cm
Quartz and Feldspar	60	56	68
Heavy minerals	4	7	5
Clay	20	30	25
Volcanic glass	2	-	-
Palagonite	-	1	-
Diatoms	12	5	1
Radiolarians	1	-	-
Sponge spicules	1	1	<1
Ebridians	<1	-	-

Bottom topography: flat; gap in Falkland (Malvinas) Fracture Zone.

Logged by: Ciesielski, Kaharoeddin, Zemmels

ISLAS ORCADAS PC 0775-15



LATITUDE: 49°31.4′ S CORR. DEPTH: 4707 M, 2572 FM.

LONGITUDE: 36°02.2′W CORE LENGTH: 698 CM

LITHOLOGIC DESCRIPTION

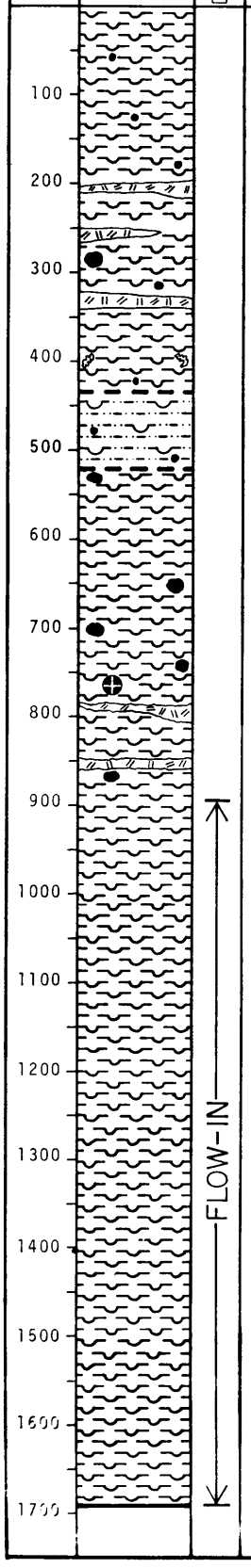
0-698 cm: Diatomaceous mud, yellowish gray (5Y 7/2); disturbed (watery; flow-in); some scattered manganese nodules and micromanganese nodules; gravel fragment.

smear slides:	20 cm	240 cm
Quartz and Feldspar	5	4
Heavy minerals	<1	<1
Clay	56	63
Volcanic glass	1	1
Diatoms	35	30
Radiolarians	2	1
Sponge spicules	<1	<1
Silicoflagellates	<1	<1

Bottom topography: gently sloping, south of gap in Falkland (Malvinas) Fracture Zone.

Logged by: Kaharoeddin

ISLAS ORCADAS PC 0775-16



LATITUDE: 50°36.5' S CORR. DEPTH: 4440 M, 2426 FM.

LONGITUDE: 31°46.0' W CORE LENGTH: 1691 CM

LITHOLOGIC DESCRIPTION

0-434 cm: Diatomaceous ooze, greenish gray (5GY 6/1) to light olive gray (5Y 5/2); scattered gravel (to 1 cm); weathered volcanic rock at 290 cm; intermittent volcanoclastic laminae from 190 to 350 cm; slightly bioturbated between 390 and 420 cm; gradational contact.

smear slides:	18 cm	39 cm	96 cm	178 cm	367 cm
Quartz and Feldspar	4	8	8	5	4
Heavy minerals	1	<1	1	1	<1
Clay	2	2	13	3	3
Volcanic glass	2	4	2	2	3
Micro-Mn nodules	<1	1	<1	<1	1
Carbonate unspecified	3	2	<1	-	1
Diatoms	81	81	75	85	86
Radiolarians	5	1	1	2	1
Sponge spicules	<1	<1	<1	<1	<1
Silicoflagellates	2	<1	-	1	<1
Percent Carbonate:	2.3	2.5	2.3	2.0	2.1

434-520 cm: Diatomaceous mud, grayish olive (10Y 4/2); some scattered micro-manganese nodules; scattered gravel (to 4 mm); gradational contact.

smear slide:	458 cm
Quartz and Feldspar	12
Heavy minerals	1
Clay	55
Volcanic glass	3
Micro-Mn nodules	2
Carbonate unspecified	1
Diatoms	25
Radiolarians	1
Sponge spicules	<1
Silicoflagellates	<1

520-1691 cm: Diatomaceous ooze, grayish olive green (5GY 3/2) to olive gray (5Y 4/1); gravel (2 cm) at 525 cm; partly weathered gravel (4 cm) at 702 cm; weathered volcanic rock at 655, 740 and 868 cm; sedimentary clast at 760 cm; intermittent volcanoclastic laminae between 760 and 885 cm; zones of mud from 767 to 785 cm and 840 to 850 cm; bottom 798 cm (893 to 1691 cm) of unit disturbed (flow-in); gradational change to flow-in.

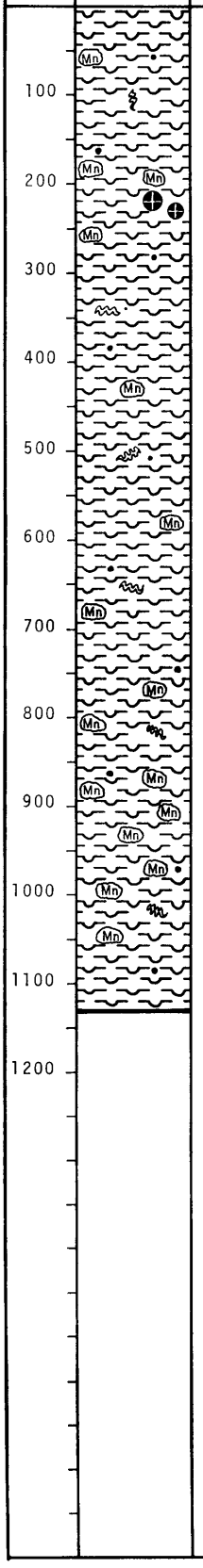
smear slides:	618 cm	783 cm	863 cm
Quartz and Feldspar	7	1	18
Heavy minerals	1	1	2
Clay	2	7	4
Volcanic glass	3	80	2
Pyrite	<1	-	-
Micro-Mn nodules	<1	-	<1
Carbonate unspecified	-	2	<1
Diatoms	76	8	66
Radiolarians	2	<1	7
Sponge spicules	<1	<1	-
Silicoflagellates	8	-	1
Percent Carbonate:	2.0	2.1	1.9

(above carbonate values from samples taken over 1 cm interval; ie., 18-19 cm, 618-619 cm, etc.)

Bottom topography: flat abyssal plain, west of Islas Orcadas Rise.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-17



LATITUDE: 50°58.1′ S CORR. DEPTH: 4139 M, 2262 FM.

LONGITUDE: 24°39.9′ W CORE LENGTH: 1132 CM

LITHOLOGIC DESCRIPTION

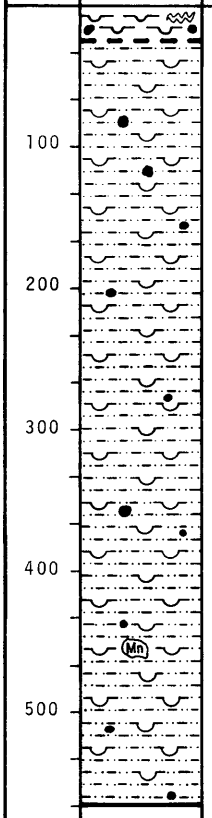
0-1132 cm: Diatomaceous ooze, dusky yellow (5Y 6/4) to light olive gray (5Y 5/2); scattered gravel (to 2 cm) and micromanganese nodules; manganese nodules (to 9 cm) at 52, 189, 199, 264, 430, 576, 682, 774, 819, 874, 879, 913, 931, 970, 987 and 1039 cm; two pieces of sedimentary clasts at 226 and 231 cm; moderately bioturbated throughout; a zone of diatomaceous mud at 925-950 cm; core liner imploded at 44-75 cm.

smear slides:	26 cm	203 cm	406 cm	610 cm	944 cm	1131 cm
Quartz and Feldspar	5	3	6	7	10	3
Heavy minerals	1	<1	<1	1	1	<1
Clay	2	6	5	4	59	8
Volcanic glass	1	3	2	2	2	3
Micro-Mn nodules	<1	2	1	2	2	1
Diatoms	87	84	83	81	25	82
Radiolarians	2	1	2	2	1	2
Sponge spicules	-	-	-	-	<1	-
Silicoflagellates	2	<1	<1	<1	-	<1

Bottom topography: flat abyssal plain, immediately east of Islas Orcadas Rise.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-18



LATITUDE: 51°36.9′ S CORR. DEPTH: 4194 M, 2292 FM.

LONGITUDE: 27°24.0′ W CORE LENGTH: 567 CM

LITHOLOGIC DESCRIPTION

0-25 cm: Diatomaceous ooze, moderate yellowish brown (10YR 5/4); scattered micromanganese nodules; some scattered gravel (to 5 mm); slightly bioturbated; gradational contact.

smear slide:	6 cm
Quartz and Feldspar	4
Clay	2
Volcanic glass	1
Micro-Mn nodules	<1
Diatoms	91
Radiolarians	1
Silicoflagellates	1

25-567 cm: Diatomaceous mud, grayish olive (10Y 4/2); gravel (to 7 cm) at 85, 122, and 358 cm; manganese nodule fragment at 452 cm; scattered gravel (to 5 mm); partly weathered volcanics are found along core liner at 110 to 139 cm, 378 to 400 cm, and 450 to 513 cm, apparently as weathered rocks "dragged" in.

smear slides:	46 cm	299 cm	519 cm
Quartz and Feldspar	8	7	6
Heavy minerals	<1	-	<1
Clay	64	68	57
Volcanic glass	6	3	9
Micro-Mn nodules	1	1	2
Zeolite	-	<1	<1
Diatoms	20	20	25
Radiolarians	1	1	<1
Sponge spicules	<1	<1	<1

Bottom topography: flat abyssal plain, immediately west of Islas Orcadas Rise.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-20

LENGTH (cm)	LITHOLOGY	DEFORMATION	LATITUDE: 52°30.4′ S	CORR. DEPTH: 3395 M, 1855 FM.
			LONGITUDE: 31°49.5′ W	CORE LENGTH: 1174 CM*

LITHOLOGIC DESCRIPTION

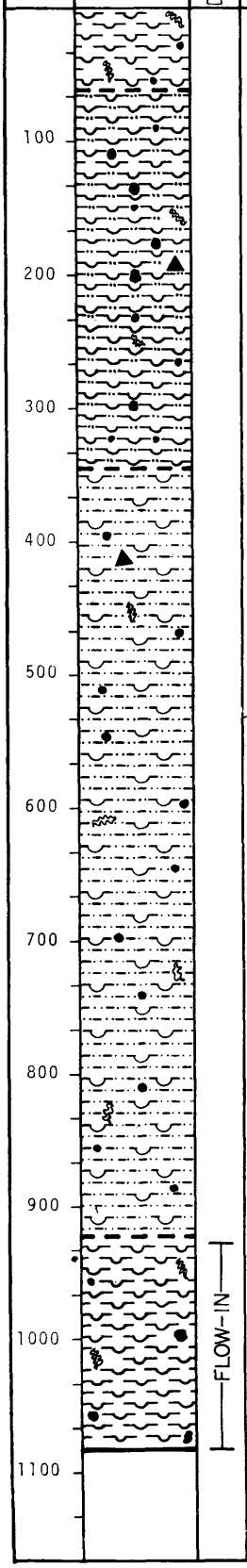
NOTE

Core description not available at this time.
Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

*Undescribed core length

Logged by:

ISLAS ORCADAS PC 0775-21



LATITUDE: 52°35.5′ S
LONGITUDE: 27°16.4′ W
CORR. DEPTH: 4639 M, 2535 FM.
CORE LENGTH: 1082 CM

LITHOLOGIC DESCRIPTION

0-64 cm: Diatomaceous ooze, dark yellowish brown (10YR 4/2); scattered gravel (to 2 cm); micromanganese nodules increasing toward base of unit; slightly bioturbated; gradational contact.

smear slide:	19 cm
Quartz and Feldspar	6
Heavy minerals	2
Clay	8
Volcanic glass	4
Micro-Mn nodules	<1
Diatoms	78
Radiolarians	1
Silicoflagellates	<1

64-346 cm: Muddy, diatomaceous ooze, light olive gray (5Y 5/2); subangular gravel (to 6 cm) coated with iron-manganese oxide at 112, 136, 182, 200, 231, and 296 cm; angular chert fragment (6 cm) at 198 cm; scattered gravel (to 1 cm) and micromanganese nodules; moderately bioturbated; several laminae of diatomaceous ooze between 120 and 180 cm; gradational contact.

smear slides:	102 cm	323 cm
Quartz and Feldspar	4	7
Heavy minerals	1	<1
Clay	15	25
Volcanic glass	3	3
Micro-Mn nodules	<1	<1
Diatoms	75	63
Radiolarians	2	2
Silicoflagellates	<1	<1

346-923 cm: Diatomaceous mud, moderate yellowish brown (10YR 5/4); scattered subangular gravel (to 4 cm); angular chert (6 cm) at 413 cm; scattered micromanganese nodules; moderately bioturbated; gradational contact.

smear slides:	462 cm	602 cm	782 cm
Quartz and Feldspar	15	3	8
Heavy minerals	1	2	1
Clay	51	72	74
Volcanic glass	6	10	4
Micro-Mn nodules	1	<1	1
Diatoms	25	10	10
Radiolarians	1	2	1
Sponge spicules	-	<1	<1
Silicoflagellates	-	<1	<1

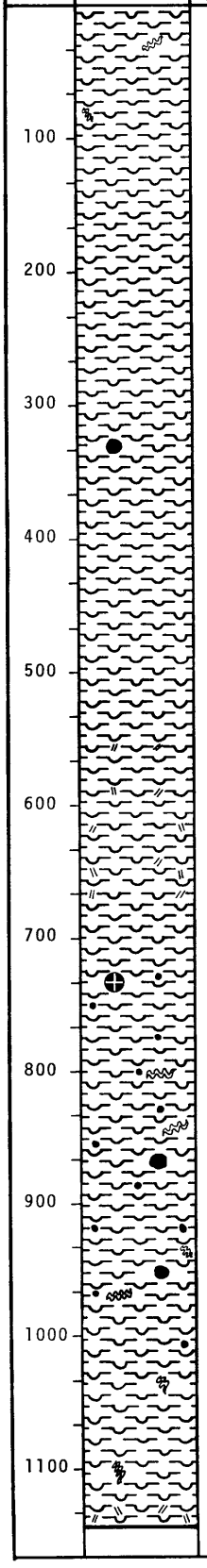
923-1082 cm: Diatomaceous ooze, dusky yellow (5Y 6/4); scattered subangular gravel and micromanganese nodules; moderately bioturbated; bottom 150 cm (932 to 1082 cm) of unit disturbed (flow-in); gradational change to flow-in.

smear slides:	931 cm	1080 cm
Quartz and Feldspar	4	5
Heavy minerals	1	<1
Clay	15	15
Volcanic glass	4	3
Micro-Mn nodules	1	1
Diatoms	72	72
Radiolarians	2	2
Sponge spicules	<1	1
Silicoflagellates	<1	<1

Bottom topography: flat abyssal plain, east of northeast Georgia Rise.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

ISLAS ORCADAS PC 0775-25



LATITUDE: 56°34.7′ S CORR. DEPTH: 5014 M, 2740 FM.

LONGITUDE: 20°17.2′ W CORE LENGTH: 1149 CM

LITHOLOGIC DESCRIPTION

0-1149 cm: Diatomaceous ooze, color varies from light olive gray (5Y 5/2) to medium gray (N5) between 0 and 725 cm; 725 to 800 cm, dark greenish gray (5GY 4/1); 800 to 920 cm, light olive gray (5Y 5/2); 920 to 1114 cm, medium gray (N5); 1114 to 1149, light olive gray (5Y 6/1); micromanganese nodule rich zones at 450 to 460 cm, 660 to 670 cm and 725 to 920 cm; laminae of volcanoclastic rich ooze between 540-680 and between 1133-1140 cm; scattered gravel between 725 and 920 cm; gravel (3 cm) at 330 and 873 cm; pumice (2 cm) at 958 cm, and several smaller pumice fragments scattered between 920 and 1114 cm; slightly bioturbated from 0 to 75 cm, 800 to 840 cm, and 920 to 1120 cm; sedimentary clast at 730 cm.

smear slides:	70 cm	210 cm	350 cm	388 cm	510 cm	570 cm	690 cm
Quartz and Feldspar	1	1	2	7	1	<1	2
Heavy minerals	<1	1	1	22	1	1	1
Clay	1	2	11	30	1	2	-
Volcanic glass	2	2	6	40	2	4	5
Micro-Mn nodules	-	<1	<1	-	-	-	-
Carbonate unspecified	-	-	1	-	4	2	7
Calcareous nannos	<1	-	<1	-	<1	-	-
Diatoms	93	91	75	1	90	89	83
Radiolarians	1	1	2	-	-	<1	1
Sponge spicules	-	-	<1	-	-	-	-
Silicoflagellates	2	2	2	-	1	1	1
Percent Carbonate:	4.1	3.9	4.0	No Sample	3.7	3.8	2.6

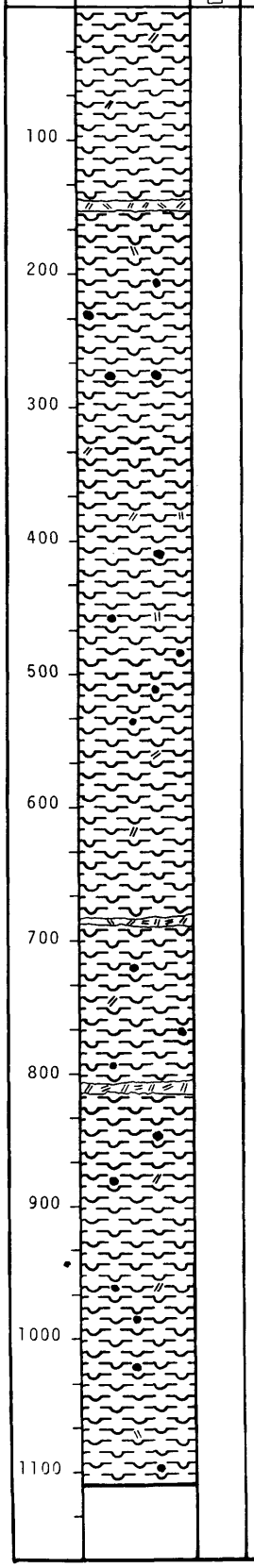
	750 cm	810 cm	840 cm	910 cm	1010 cm	1100 cm	1120 cm
Quartz and Feldspar	6	4	1	1	2	4	2
Heavy minerals	1	2	<1	1	<1	3	-
Clay	12	17	1	2	-	17	9
Volcanic glass	3	8	2	2	3	8	2
Micro-Mn nodules	-	3	-	-	-	-	-
Carbonate unspecified	3	1	5	2	5	8	<1
Calcareous nannos	-	-	<1	<1	-	<1	<1
Diatoms	75	65	90	91	91	60	85
Radiolarians	-	<1	-	-	-	<1	<1
Sponge spicules	-	<1	-	-	-	<1	-
Silicoflagellates	-	-	-	<1	-	-	<1
Percent Carbonate:	2.8	2.4	2.1	2.5	2.1	2.2	3.0

(above carbonate values from samples taken over 1 cm interval; ie; 70-71 cm, 210-211 cm, etc.)

Bottom topography: flat abyssal plain, east of South Sandwich Islands.

Logged by: Kaharoeddin, MacKenzie, M. Weaver

ISLAS ORCADAS PC 0775-27



LATITUDE: 57°02.7′ S CORR. DEPTH: 5020 M, 2743 FM.

LONGITUDE: 23°34.3′ W CORE LENGTH: 1110 CM

LITHOLOGIC DESCRIPTION

0-1110 cm: Diatomaceous ooze, light olive gray (5Y 5/2) to dusky yellow green (5GY 5/2); volcanoclastic laminae (to 4 cm) from 0 to 1074 cm; scattered gravel composed of volcanic rock from 204 to 294, 404 to 544 cm, and 714 to 1110 cm.

smear slides:	105 cm	141 cm	211 cm	268 cm	327 cm	385 cm	412 cm	472 cm
Quartz and Feldspar	2	3	2	2	1	3	2	1
Heavy minerals	1	-	-	<1	1	-	<1	<1
Clay	1	5	4	7	1	3	1	1
Volcanic glass	3	20	1	-	5	3	2	1
Micro-Mn nodules	-	1	<1	1	-	<1	<1	<1
Carbonate unspecified	4	2	2	3	5	2	5	5
Calcareous nannos	-	1	2	<1	-	-	-	-
Diatoms	89	65	84	85	86	87	88	89
Radiolarians	-	-	<1	-	-	<1	<1	2
Sponge spicules	-	2	4	-	<1	-	-	-
Silicoflagellates	<1	1	1	<1	1	1	1	1
Percent Carbonate:	3.0	2.0	3.0	3.3	1.2	Not Sampled	2.7	2.4

	544 cm	684 cm	788 cm	844 cm	944 cm	1022 cm	1086 cm
Quartz and Feldspar	1	3	2	3	8	5	2
Heavy minerals	-	<1	1	-	1	<1	1
Clay	7	2	1	<1	3	<1	1
Volcanic glass	2	12	2	3	5	1	1
Micro-Mn nodules	-	<1	2	1	1	-	1
Carbonate unspecified	3	1	10	8	3	4	5
Calcareous nannos	<1	-	<1	<1	-	-	-
Diatoms	87	81	81	84	79	89	88
Radiolarians	-	-	1	-	-	-	<1
Sponge spicules	<1	-	-	-	-	-	-
Silicoflagellates	-	-	-	-	-	-	1
Percent Carbonate	2.9	2.8	2.6	2.6	2.9	2.6	2.7

(above carbonate values from samples taken over 2 cm intervals; ie.; 105-107 cm, 141-143 cm, etc.)

Bottom topography: moderately flat abyssal plain, approximately 190 km east of Candlemas Island of the South Sandwich group.

Logged by: Kaharoeddin, M. Weaver, MacKenzie

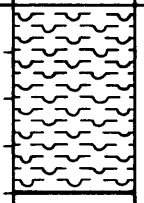
ISLAS ORCADAS PC 0775-29

LENGTH (cm) | LITHOLOGY | DEFORMATION

LATITUDE: 57°11.6′ S CORR. DEPTH: 3504 M, 1916 FM.

LONGITUDE: 25°29.6′ W CORE LENGTH: 20 CM

LITHOLOGIC DESCRIPTION



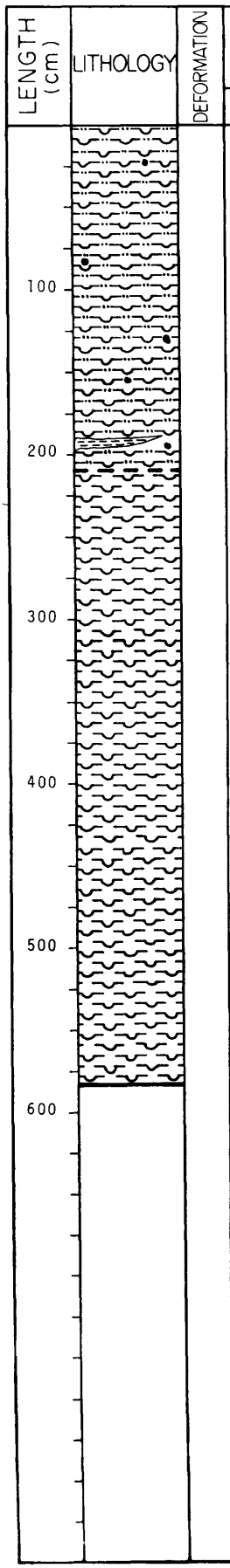
0-20 cm: Diatomaceous ooze, olive gray (5Y 3/2) and light olive gray (5Y 5/2); scattered pumice, size to 2 mm; scattered micromanganese nodules, and also laminae of micromanganese nodules.

smear slide:	11 cm
Quartz and Feldspar	2
Heavy minerals	<1
Clay	1
Volcanic glass	1
Diatoms	96
Radiolarians	<1

Bottom topography: moderately flat bottom, west of South Sandwich Trench.

Logged by: Kaharoeddin, Shepley

ISLAS ORCADAS PC 0775-32



LATITUDE: 56°14.0′ S CORR. DEPTH: 2933 M, 1603 FM.

LONGITUDE: 30°36.1′ W CORE LENGTH: 584 CM

LITHOLOGIC DESCRIPTION

0-210 cm: Muddy, diatomaceous ooze, olive gray (5Y 3/2); top 5 cm consists entirely of diatomaceous ooze, pale brown (5YR 5/2); scattered granules; lamina of montmorillonite clay (possibly of volcanic origin) at 190 cm; gradational contact.

smear slides:	10 cm	90 cm
Quartz and Feldspar	7	12
Heavy minerals	-	<1
Clay	25	20
Volcanic glass	2	1
Diatoms	65	77
Radiolarians	1	<1
Sponge spicules	<1	<1
Silicoflagellates	<1	<1

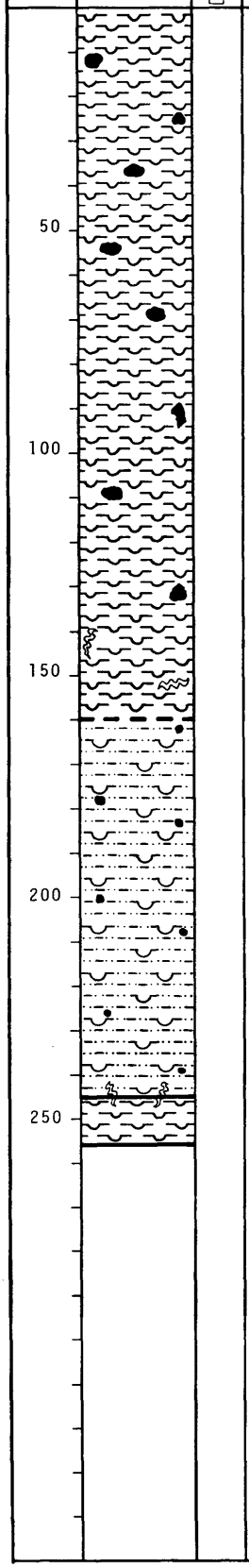
210-584 cm: Diatomaceous ooze, color varies from grayish olive (10Y 4/2) between 210 and 320 cm; 320 to 377 cm, light olive gray (5Y 5/2); 377 to 410 cm, medium dark gray (N4); 410-584 cm, dark greenish gray (5G 4/1).

smear slides:	251 cm	303 cm	337 cm	396 cm	406 cm	511 cm
Quartz and Feldspar	2	5	12	5	4	6
Heavy minerals	-	<1	-	-	-	<1
Clay	<1	3	2	<1	1	<1
Volcanic glass	1	-	-	<1	<1	3
Palagonite	-	<1	-	-	-	-
Diatoms	95	89	83	94	93	90
Radiolarians	-	<1	-	<1	<1	-
Sponge spicules	1	-	-	-	-	-
Silicoflagellates	<1	1	3	1	1	<1

Bottom topography: moderate slope, west of back-arc spreading center west of South Sandwich Islands.

Logged by: Kaharoeddin, Ciesielski, Zemmels, Campbell

ISLAS ORCADAS PC 0775-33



LATITUDE: 55°11.6′ S
LONGITUDE: 30°26.4′ W
CORR. DEPTH: 4623 M, 2526 FM,
CORE LENGTH: 256 CM

LITHOLOGIC DESCRIPTION

0-160 cm: Diatomaceous ooze, color varies from dark yellowish brown (10YR 4/2) between 0 and 25 cm; 25 to 50 cm, pale yellowish brown (10YR 6/2); 50 to 160 cm, yellowish gray (5Y 7/2); scattered gravel (to 4 mm); slightly bioturbated towards bottom; gradational contact.

smear slides:	18 cm	38 cm	94 cm
Quartz and Feldspar	5	5	3
Heavy minerals	2	1	-
Clay	-	1	-
Micro-Mn nodules	-	-	1
Diatoms	93	92	96
Radiolarians	<1	<1	<1
Sponge spicules	<1	<1	<1
Silicoflagellates	<1	<1	<1

160-245 cm: Diatomaceous mud, dark yellowish brown (10YR 4/2); scattered gravel and micromanganese nodules; sharp and bioturbated contact.

smear slide:	186 cm
Quartz and Feldspar	34
Heavy minerals	3
Clay	10
Volcanic glass	10
Micro-Mn nodules	1
Diatoms	40
Radiolarians	2
Sponge spicules	<1
Silicoflagellates	<1

245-256 cm: Diatomaceous ooze, light olive gray (5Y 5/2); almost homogeneous.

smear slide:	252 cm
Quartz and Feldspar	3
Diatoms	96
Radiolarians	<1
Sponge spicules	<1
Silicoflagellates	<1

Bottom topography: rough fracture zone, northwest of South Sandwich Island Arc.

Logged by: Kaharoeddin, Campbell, MacKenzie, DeFelice

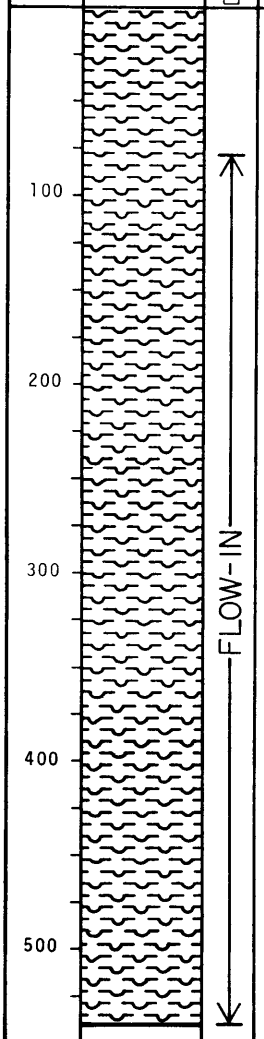
ISLAS ORCADAS PC 0775-34

LENGTH (cm) | LITHOLOGY | DEFORMATION

LATITUDE: 55°08.2′ S CORR. DEPTH: 5073 M, 2772 FM.

LONGITUDE: 31°05.5′ W CORE LENGTH: 540 CM

LITHOLOGIC DESCRIPTION



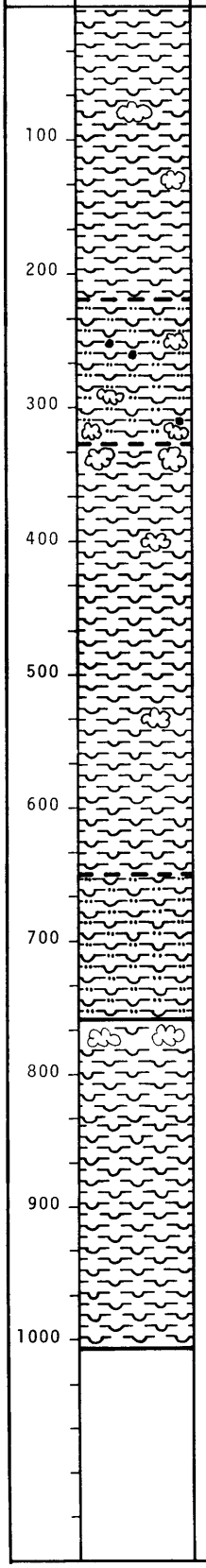
0-540 cm: Diatomaceous ooze; 0-80 cm undisturbed, the remainder (80-540 cm) is flow-in; grayish olive (10Y 4/2) at the top, sharp color change at 15 cm to moderate olive brown (5Y 4/4), gradually changing to dark greenish gray (5GY 4/1); at 38 cm, a sharp color change to olive gray (5Y 4/1), and at 80 cm, another sharp change to light olive gray (5Y 5/2).

smear slides:	5 cm	19 cm	34 cm	48 cm	55 cm	70 cm
Quartz and Feldspar	2	2	4	5	3	1
Heavy minerals	-	-	-	1	-	-
Clay	2	2	3	2	<1	1
Volcanic glass	1	3	1	2	<1	-
Palagonite	-	1	-	-	-	-
Calcareous nannos	-	1	-	-	-	-
Diatoms	94	85	90	90	96	97
Radiolarians	-	5	1	-	-	-
Sponge spicules	<1	<1	<1	-	-	-
Silicoflagellates	1	<1	<1	-	<1	1

Bottom topography: steep slope, northern wall of fracture zone trending northeast into the northern portion of the South Sandwich Trench.

Logged by: Kaharoeddin, DeFelice, Zemmels, Campbell

ISLAS ORCADAS PC 0775-37



LATITUDE: 52° 41.3′ S CORR. DEPTH: 2782 M, 1520 FM.

LONGITUDE: 42° 05.9′ W CORE LENGTH: 1009 CM

LITHOLOGIC DESCRIPTION

0-220 cm: Diatomaceous ooze, moderate olive brown (5Y 4/4); minor clay mottling; gradational contact.

smear slides:	18 cm	145 cm
Quartz and Feldspar	20	10
Clay	3	5
Micro-Mn nodules	2	-
Diatoms	73	83
Radiolarians	<1	-
Sponge spicules	1	1
Silicoflagellates	<1	1

Percent Carbonate (145-146 cm): 2.3

220-330 cm: Muddy, diatomaceous ooze, grayish olive (10Y 4/2); some scattered gravel; highly mottled with diatomaceous ooze (5Y 4/4); mottled gradational contact.

smear slides:	255 cm	310 cm
Quartz and Feldspar	27	25
Clay	3	5
Glauconite	-	<1
Micro-Mn nodules	2	1
Diatoms	65	67
Radiolarians	1	-
Sponge spicules	1	1
Silicoflagellates	1	1

Percent Carbonate (310-311 cm): 1.8

330-650 cm: Diatomaceous ooze, moderate olive brown (5Y 4/4); minor clay mottling; gradational contact.

smear slides:	367 cm	446 cm
Quartz and Feldspar	5	7
Clay	2	5
Micro-Mn nodules	1	1
Diatoms	90	85
Radiolarians	<1	<1
Sponge spicules	<1	1
Silicoflagellates	<1	<1

Percent Carbonate (446-447 cm): 2.0

650-761 cm: Muddy, diatomaceous ooze, grayish olive (10Y 4/2); sharp contact.

smear slides:	666 cm	750 cm
Quartz and Feldspar	15	30
Clay	10	15
Micro-Mn nodules	5	-
Diatoms	66	55
Radiolarians	3	-
Sponge spicules	<1	-
Silicoflagellates	1	-

Percent Carbonate (750-751 cm): 1.7

761-1009 cm: Diatomaceous ooze, moderate olive brown (5Y 4/5); minor mottling up to 770 cm; high content of volcanic ash and clay between 916 and 970 cm.

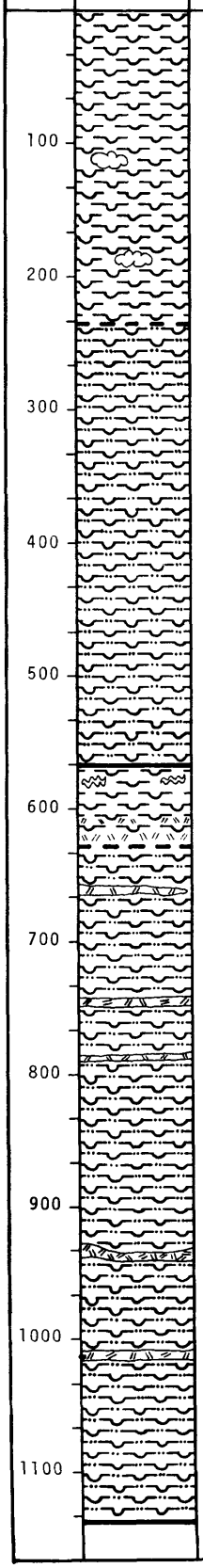
smear slides:	814 cm	980 cm		814 cm	980 cm
Quartz and Feldspar	7	5	Volcanic rock fragments	-	1
Clay	8	10	Diatoms	85	84

Percent Carbonate (814-815 cm): 2.1

Bottom topography: moderately sloping, northern flank of North Scotia Ridge which forms southern wall of Falkland Chasm.

Logged by: Kaharoeddin, Zemmels, DeFelice, Campbell

ISLAS ORCADAS PC 0775-38



LATITUDE: 52°25.8′ S CORR. DEPTH: 3603 M, 1969 FM.

LONGITUDE: 42°10.5′ W CORE LENGTH: 1139 CM

LITHOLOGIC DESCRIPTION

0-236 cm: Diatomaceous ooze, 0 to 100 cm, grayish olive (10Y 4/2); 100 to 236 cm, moderate olive brown (5Y 4/4); minor mottling; slight decrease in diatom content toward base of unit; gradational contact.

smear slides:	10 cm	108 cm	213 cm
Quartz and Feldspar	3	2	5
Heavy minerals	<1	1	-
Clay	-	<1	5
Volcanic glass	<1	-	3
Diatoms	95	96	87
Radiolarians	<1	-	-
Sponge spicules	<1	1	-
Silicoflagellates	<1	-	-

Percent Carbonate (108-109 cm): 2.9

236-568 cm: Muddy, diatomaceous ooze, grayish olive (10Y 4/2); some scattered micromanganese nodules; increasing quartz content with depth; sharp contact.

smear slides:	264 cm	306 cm	392 cm	488 cm	558 cm
Quartz and Feldspar	10	15	20	15	30
Heavy minerals	2	5	-	-	3
Clay	10	10	5	10	2
Volcanic glass and Volcanic rock	1	<1	10	3	1
Glauconite	-	2	-	-	3
Pyrite	3	-	-	-	1
Diatoms	74	68	65	72	56
Sponge spicules	<1	<1	-	-	4

Percent Carbonate (392-393 cm): 1.9

568-629 cm: Diatomaceous ooze, moderate olive brown (5Y 4/4); slightly bioturbated at top of unit; thin laminae of volcanic ash at 614, 625 and 629 cm; gradational contact.

smear slide:	595 cm
Quartz and Feldspar	2
Heavy minerals	<1
Glauconite	<1
Diatoms	96
Radiolarians	1
Sponge spicules	<1
Silicoflagellates	<1

Percent Carbonate (595-596 cm): 2.0

629-1139 cm: Muddy, diatomaceous ooze, grayish olive (10Y 4/2); laminae of volcanic ash from 660 to 665 cm, 746 to 752 cm, 790 to 796 cm; 927 to 934 cm and 1008 to 1017 cm; decreasing diatom content with depth; increasing coarse fraction with depth.

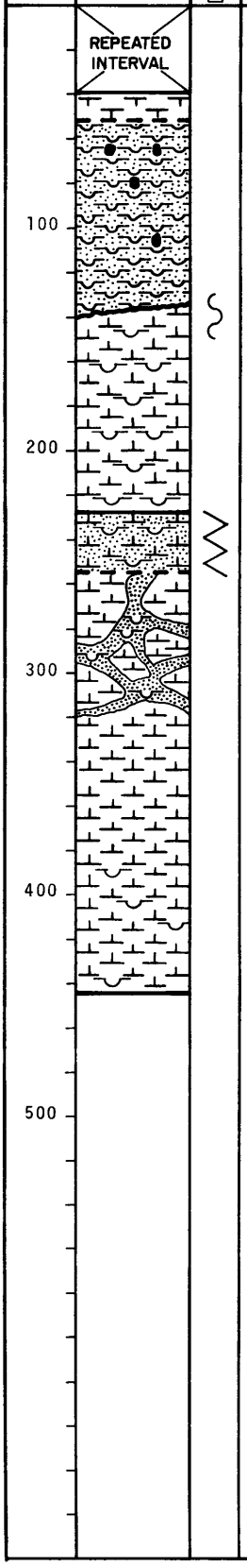
smear slides:	763 cm	874 cm	975 cm	1122 cm	663 cm
Quartz and Feldspar	15	5	25	20	80
Clay	15	10	5	20	-
Volcanic rock fragments	-	-	5	5	13
Diatoms	70	85	65	55	7
	muddy diatomaceous ooze				Volcanic ash

Percent Carbonate (975-976 cm): 1.7

Bottom topography: flat, deepest portion of Falkland Chasm near its outlet into North Georgia Abyssal Plain.

Logged by: Kaharoeddin, Zemmels, MacKenzie, Campbell

ISLAS ORCADAS PC 0775-40



LATITUDE: 50°18.2′ S CORR. DEPTH: 1605 M, 877 FM.

LONGITUDE: 43°25.0′ W CORE LENGTH: 445 CM

LITHOLOGIC DESCRIPTION

0-40 cm: Repeated units resulting from double hit. Same units as found from 40-138 cm.

40-53 cm: Foraminiferal ooze, white (N9); gradational contact.

smear slide:	46 cm
Quartz and Feldspar	5
Clay	3
Glauconite	2
Carbonate unspecified	8
Foraminifera	70
Diatoms	12

Percent Carbonate (46-47 cm): 46.5

53-138 cm: Pebbly, sandy, diatomaceous ooze, mottled with light olive gray (5Y 6/1), olive-gray (5Y 4/1), greenish gray (5GY 6/1), and (5G 6/1); pebbles scattered throughout; irregular, disturbed contact (125-138 cm).

smear slides:	67 cm	107 cm		67 cm	107 cm
Quartz and Feldspar	30	20	Glauconite	7	10
Clay	10	5	Foraminifera	<1	-
Carbonate unspecified	3	-	Diatoms	40	57
Rock fragments	5	-	Radiolarians	3	7
Volcanic glass	1	-	Silicoflagellates	<1	<1

Percent Carbonate (67-68 cm): 1.0 (107-108 cm): 1.7

138-229 cm: Diatomaceous, nannofossil ooze, yellowish gray (5Y 8/1); sharp contact.

smear slide:	191 cm
Foraminifera	2
Calcareous nannos	75
Diatoms	20
Radiolarians	2
Sponge spicules	1

Percent Carbonate (191-192 cm): 73.9

229-256 cm: Sandy, diatomaceous, nannofossil ooze, medium gray (N5) to medium dark gray (N4); entire unit disturbed (washed); gradational contact.

smear slide:	239 cm
Quartz and Feldspar	20
Glauconite	7
Calcareous nannos	42
Diatoms	20
Radiolarians	10
Silicoflagellates	<1

Percent Carbonate (239-240 cm): 11.2

256-445 cm: Slightly diatomaceous, nannofossil ooze, very light gray (N8); 256-320 cm sinuous (depositional) intermixing of diatomaceous sand and and nannofossil ooze.

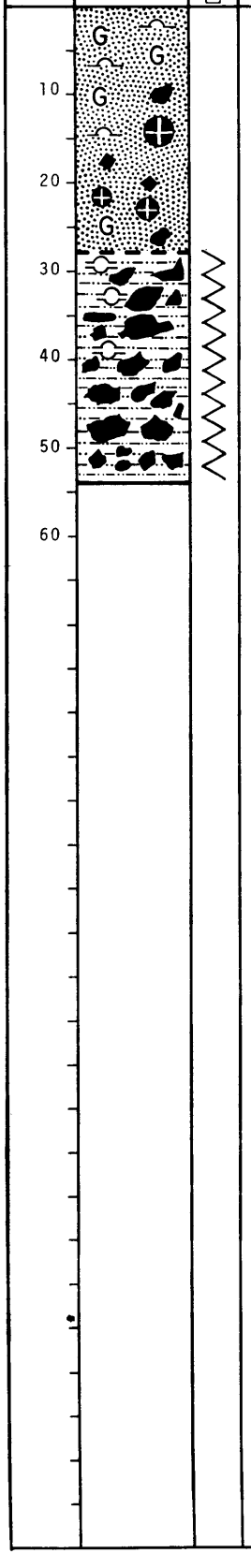
smear slides:	262 cm	390 cm		262 cm	390 cm
Quartz and Feldspar	5	4	Calcareous nannos	69	60
Clay	10	6	Diatoms	5	20
Glauconite	8	-	Radiolarians	-	5
Foraminifera	3	5	Silicoflagellates	<1	-

Percent Carbonate (262-263 cm): 21.0 (390-391 cm): 67.6

Bottom topography: moderately sloping, northern flank of Maurice Ewing Bank.

Logged by: Ciesielski, Zemmels

ISLAS ORCADAS PC 0775-42



LATITUDE: 49°52.1′ S CORR. DEPTH: 2621 M, 1432 FM.

LONGITUDE: 43°37.8′ W CORE LENGTH: 54 CM

LITHOLOGIC DESCRIPTION

0-28 cm: Radiolarian, glauconitic sand, olive gray (5Y 3/2); soft sedimentary clasts consisting of siliceous mud at 14 cm and from 20 to 28 cm; angular basaltic gravel scattered from 10 to 28 cm; glauconite, radiolarian and foraminiferal content decreasing with depth; gradational contact.

smear slides:	6 cm	19 cm	26 cm (sedimentary clast)
Quartz and Feldspar	35	33	5
Heavy minerals	1	-	-
Clay	5	15	72
Rock fragments	-	8	-
Volcanic glass	1	2	1
Glauconite	20	15	1
Foraminifera	13	5	-
Diatoms	5	7	10
Radiolarians	20	15	10
Sponge spicules	-	-	1

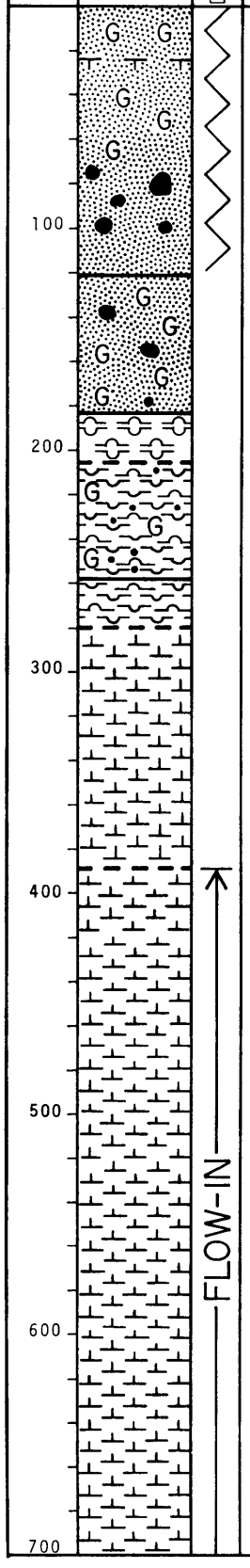
Percent Carbonate (6-7 cm): 7.1 (19-20 cm): 2.1

28-54 cm: Gravel, dark gray (N3), subangular to angular, poorly sorted, basaltic composition; matrix consists of siliceous mud, olive gray (5Y 3/2); washed.

Bottom topography: moderately sloping, northern flank of Maurice Ewing Bank.

Logged by: Kaharoeddin

ISLAS ORCADAS PC 0775-43



LATITUDE: 50°13.2′ S CORR. DEPTH: 1713 M, 936 FM.

LONGITUDE: 44°08.8′ W CORE LENGTH: 853 CM

LITHOLOGIC DESCRIPTION

0-122 cm: Glauconitic sand, olive gray (5Y 3/2); interbedded with sandy foraminiferal ooze, light gray (N7); medium to large pebbles between 70 and 103 cm; disturbed unit (mixed, washed; contains a piece of broken liner); top 40 cm repeated section; sharp contact.

smear slides:	12 cm	24 cm	77 cm
Quartz and Feldspar	62	20	65
Heavy minerals	1	-	2
Clay	-	<1	5
Volcanic glass	1	<1	1
Glauconite	30	7	15
Foraminifera	-	64	-
Calcareous nannos	-	<1	-
Diatoms	<1	5	2
Radiolarians	5	2	10
Sponge spicules	<1	<1	-
Silicoflagellates	-	1	-

Percent Carbonate (12-13 cm): 3.7 (24-25 cm): 30.2 (77-78 cm): 2.2

122-184 cm: Glauconitic sand, dark greenish gray (5GY 4/1); lamina of siliceous ooze, grayish olive (10Y 4/2); scattered pebbles; sharp contact.

smear slide:	137 cm		
Quartz and Feldspar	69	Diatoms	2
Heavy minerals	3	Radiolarians	5
Glauconite	20	Sponge spicules	1

Percent Carbonate (137-138 cm): 1.5

184-206 cm: Siliceous ooze, grayish olive green (5GY 3/2); upper portion semi-consolidated; gradational contact.

smear slide:	192 cm		
Quartz and Feldspar	10	Diatoms	45
Volcanic glass	1	Radiolarians	35
Glauconite	7	Sponge spicules	2

Percent Carbonate (192-193 cm): 3.0

206-259 cm: Glauconitic, radiolarian, diatomaceous ooze, grayish olive green (5GY 3/2); scattered gravel; sharp contact.

smear slide:	213 cm		
Quartz and Feldspar	10	Diatoms	57
Heavy minerals	<1	Radiolarians	15
Glauconite	15	Sponge spicules	2

Percent Carbonate (213-214 cm): 1.9

259-280 cm: Radiolarian-diatomaceous ooze, grayish olive (10Y 4/2); upper portion semi-consolidated; gradational contact.

smear slide:	265 cm		
Quartz and Feldspar	1	Radiolarians	40
Volcanic glass	2	Sponge spicules	2
Glauconite	2	Silicoflagellates	1
Diatoms	52		

Percent Carbonate (265-266 cm): 6.3

CONTINUED - NEXT PAGE

Logged by: Kaharoeddin, DeFelice, Campbell

ISLAS ORCADAS PC 0775-43

LENGTH (cm) | LITHOLOGY | DEFORMATION

LATITUDE: 50°13.2′ S CORR. DEPTH: 1713 M, 936 FM.

LONGITUDE: 44°08.8′ W CORE LENGTH: 853 CM

LITHOLOGIC DESCRIPTION

CONTINUED

280-390 cm: Nannofossil ooze, yellowish gray (5Y 8/1); gradational contact.

smear slide:	310 cm
Quartz and Feldspar	<1
Heavy minerals	<1
Volcanic glass	1
Glauconite	<1
Foraminifera	10
Calcareous nannos	81
Diatoms	1
Radiolarians	5
Silicoflagellates	<1

800

900

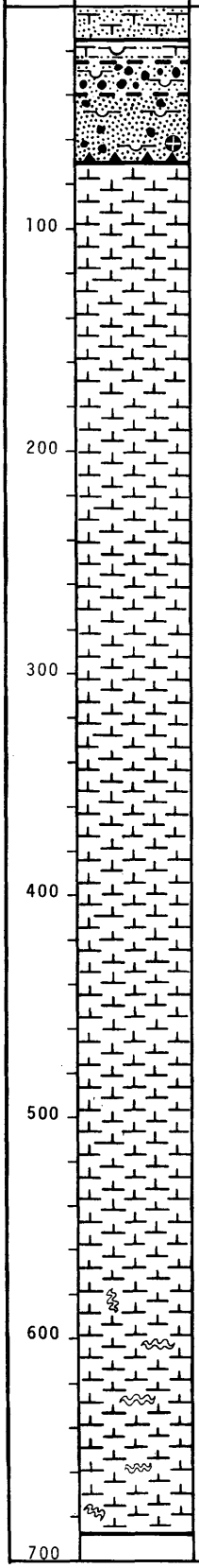
Percent Carbonate (310-311 cm): 65.5

390-853 cm: Nannofossil ooze, yellowish gray (5Y 8/1); flow-in.

Bottom topography: gently sloping rise at apex of northwestern portion of the Maurice Ewing Bank.

Logged by: Kaharoeddin, DeFelice, Campbell

ISLAS ORCADAS PC 0775-44



LATITUDE: 50°18.5′ S CORR. DEPTH: 1651 M, 902 FM.

LONGITUDE: 44°31.7′ W CORE LENGTH: 688 CM

LITHOLOGIC DESCRIPTION

0-16 cm: Sandy, foraminiferal ooze, olive black (5Y 2/1); lamina of siliceous foraminiferal ooze from 13 to 14 cm; sharp contact.

smear slide: 1 cm

Quartz and Feldspar	19	Calcareous nannos	4
Heavy minerals	3	Diatoms	5
Volcanic glass	2	Radiolarians	1
Glauconite	5	Sponge spicules	<1
Foraminifera	60	Silicoflagellates	<1

Percent Carbonate (6-7 cm): 4.5

16-25 cm: Muddy, diatomaceous, foraminiferal ooze, yellowish gray (5Y 8/1); gradational contact.

smear slide: 18 cm

Quartz and Feldspar	7	Calcareous nannos	4
Heavy minerals	<1	Diatoms	14
Clay	12	Radiolarians	5
Volcanic glass	<1	Sponge spicules	<1
Glauconite	3	Silicoflagellates	<1
Foraminifera	55		

Percent Carbonate (18-19 cm): 30.9

25-40 cm: Diatomaceous, sandy gravel, olive gray (5Y 3/2); diatomaceous sand with glauconite between 25 and 30 cm; gradational contact.

smear slide: 30 cm

Quartz and Feldspar	58	Diatoms	25
Heavy minerals	2	Radiolarians	4
Clay	<1	Sponge spicules	<1
Glauconite	10	Silicoflagellates	<1
Foraminifera	<1		

Percent Carbonate (27-28 cm): 6.8 (33-34 cm): 1.7

40-71 cm: Diatomaceous, gravelly sand, moderate olive brown (5Y 4/4); sandy, sedimentary clast between 66 and 68 cm; fractured chert layer between 68 and 71 cm; sharp contact.

smear slide: (fine fraction only) 60 cm

Quartz and Feldspar	6
Clay	1
Volcanic glass	3
Glauconite	2
Diatoms	85
Radiolarians	3
Silicoflagellates	<1

Percent Carbonate (60-61 cm): 2.3

71-688 cm: Nannofossil ooze, white (N9); highly bioturbated below 580 cm; some scattered broken shells between 560 and 620 cm; thinning of core from 580 to 590 cm, probably due to sediments sliding down in the liner during extrusion.

smear slides:

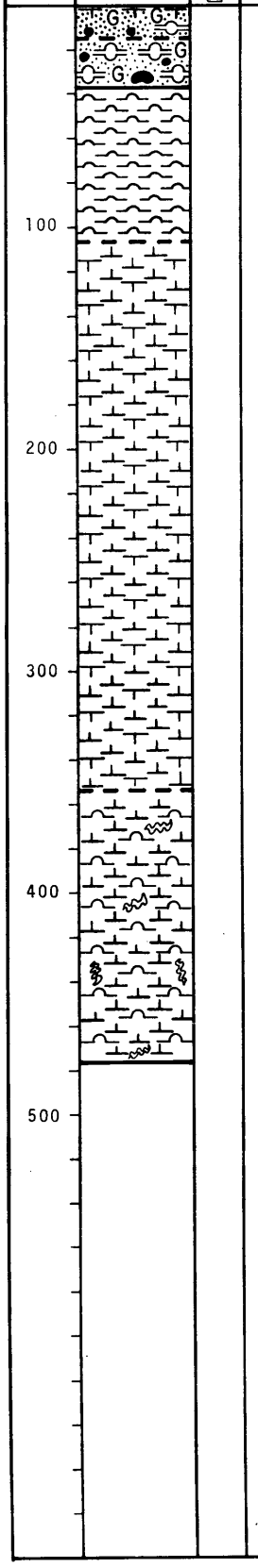
	77 cm	180 cm	680 cm
Quartz and Feldspar	-	-	20
Clay	27	19	-
Foraminifera	3	1	13
Calcareous nannos	70	80	67

Percent Carbonate (180-181 cm): 89.6

Bottom topography: flat; apex of northwestern portion of Maurice Ewing Bank.

Logged by: Kaharoeddin, Ciesielski, Zemmels

ISLAS ORCADAS PC 0775-45



LATITUDE: 50°25.0′ S CORR. DEPTH: 1621M, 886 FM.

LONGITUDE: 44°52.4′ W CORE LENGTH: 477 CM

LITHOLOGIC DESCRIPTION

0-15 cm: Glauconitic sand, dark greenish gray (5G 4/1); from 0 to 2 cm, sandy, foraminiferal ooze, yellowish gray (5Y 8/1); liner imploded above 0 cm, hence, probably some surface sediment loss; pebbly, siliceous sand, olive black (5Y 2/1), from 12 to 15 cm; gradational contact.

smear slides:	0 cm	10 cm		0 cm	10 cm
Quartz and Feldspar	22	64	Diatoms	10	2
Heavy minerals	2	1	Radiolarians	3	2
Volcanic glass	1	1	Sponge spicules	<1	-
Glauconite	10	30	Silicoflagellates	<1	-
Foraminifera	52	-			

Percent Carbonate (0-1 cm): 42.0 (10-11 cm): 1.6

15-38 cm: Glauconitic, sandy, siliceous ooze, light olive brown (5Y 5/6); decreasing sand content with depth; scattered pebbles; pebble (5 cm) from 33 to 38 cm; sharp contact.

smear slide:	30 cm		
Quartz and Feldspar	40	Diatoms	16
Heavy minerals	2	Radiolarians	25
Volcanic glass	2	Sponge spicules	<1
Glauconite	15	Silicoflagellates	<1

Percent Carbonate (30-31 cm): 1.6

38-107 cm: Radiolarian ooze, moderate olive brown (5Y 4/4) and grayish olive (10Y 4/2); moderately indurated interval from 47 to 62 cm; with volcanic glass and volcanic alteration products; diatom content decreasing with depth; gradational contact.

smear slides:	53 cm	73 cm
Volcanic glass	2	<1
Diatoms	35	5
Radiolarians	60	93
Sponge spicules	2	1
Silicoflagellates	<1	1

Percent Carbonate (53-54 cm): 5.7 (73-74 cm): 7.3

107-354 cm: Foraminiferal, nannofossil ooze, white (N9) to pinkish gray (5YR 8/1); gradational contact.

smear slide:	201 cm
Quartz and Feldspar	<1
Volcanic glass	1
Foraminifera	30
Calcareous nannos	60
Diatoms	5
Radiolarians	3
Sponge spicules	1
Silicoflagellates	<1

Percent Carbonate (201-202 cm): 79.1

354-477 cm: Radiolarian-nannofossil ooze, yellowish gray (5Y 8/1) and light olive gray (5Y 6/1); highly bioturbated.

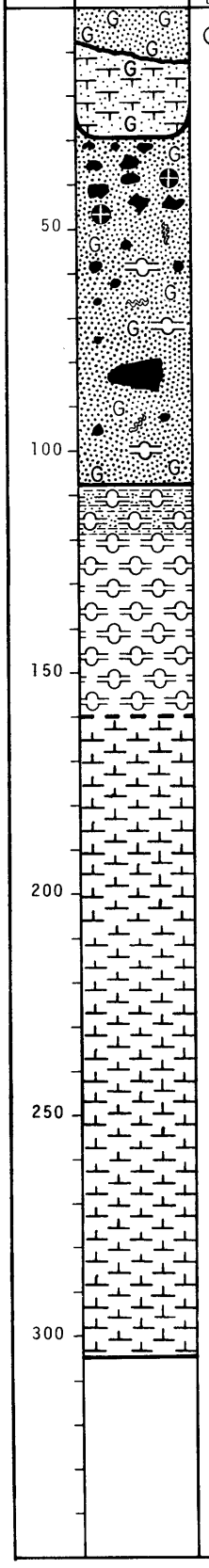
smear slide:	460 cm		
Quartz and Feldspar	<1	Diatoms	5
Heavy minerals	<1	Radiolarians	41
Volcanic glass	2	Sponge spicules	<1
Foraminifera	2	Silicoflagellates	<1
Calcareous nannos	48		

Percent Carbonate (460-461 cm): 34.8

Bottom topography: flat; apex of northwestern portion of Maurice Ewing Bank.

Logged by: Ciesielski, Kaharoeddin, Emerick

ISLAS ORCADAS PC 0775-46



LATITUDE: 50°27.8′ S CORR. DEPTH: 1599 M, 874 FM.

LONGITUDE: 44°57.2′ W CORE LENGTH: 305 CM

LITHOLOGIC DESCRIPTION

0-10 cm: Glauconitic sand, olive gray (5Y 3/2); liner imploded above 0 cm, hence, probably some surface sediment loss; sharp contact.

smear slide:	5 cm		
Quartz and Feldspar	51	Foraminifera	3
Mica	<1	Calcareous nannos	<1
Heavy minerals	1	Diatoms	2
Volcanic glass	1	Radiolarians	3
Palagonite	<1	Sponge spicules	1
Glauconite	36	Silicoflagellates	<1

Percent Carbonate (5-6 cm): 4.2

10-30 cm: Glauconitic, sandy, foraminiferal ooze, yellowish gray (5Y 8/1); some small scattered pebbles; sharp contact.

smear slide:	10 cm		
Quartz and Feldspar	30	Calcareous nannos	10
Heavy minerals	<1	Diatoms	8
Clay	7	Radiolarians	4
Glauconite	10	Sponge spicules	<1
Foraminifera	30		

Percent Carbonate (10-11 cm): 14.5

30-108 cm: Glauconitic, siliceous, quartz sand, color varies from olive gray (5Y 3/2) at 30 to 35 cm, to greenish black (5GY 2/1) at 100 to 108 cm; numerous angular sedimentary clasts and abundant subrounded pebbles from 35 to 48 cm; small pebbles decreasing with depth, with the exception of a large pebble at 82 to 84 cm; slightly bioturbated; sharp contact.

smear slides:	35 cm	65 cm	100 cm
Quartz and Feldspar	50	45	40
Heavy minerals	<1	2	-
Clay	-	-	5
Glauconite	20	20	15
Foraminifera	-	1	-
Calcareous nannos	-	1	-
Diatoms	20	10	25
Radiolarians	10	20	14
Sponge spicules	<1	<1	1
Silicoflagellates	-	1	-

Percent Carbonate (32-33 cm): 1.1 (65-66 cm): 4.2
(35-36 cm): 1.1 (100-101 cm): 2.0

108-160 cm: Siliceous ooze, greenish gray (5GY 6/1); sandy clay between 108- and 118 cm; gradational contact.

smear slides:	115 cm	147 cm
Quartz and Feldspar	18	<1
Clay	80	<1
Glauconite	1	-
Diatoms	-	48
Radiolarians	1	49
Sponge spicules	-	1
Silicoflagellates	-	2

Percent Carbonate (147-148 cm): 1.8

160-305 cm: Nannofossil ooze, white (N9) and pinkish gray (5YR 8/1).

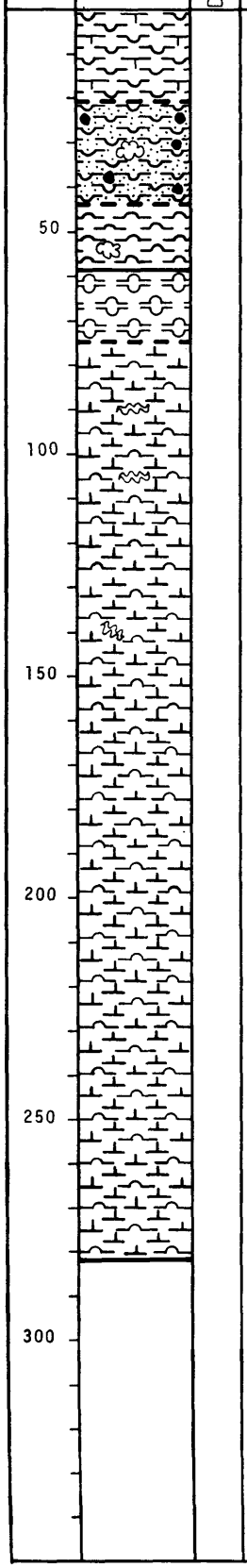
smear slide:	280 cm
Foraminifera	8
Calcareous nannos	90
Diatoms	1
Radiolarians	1

Percent Carbonate (190-191 cm): 80.3
(279-280 cm): 76.3

Bottom topography: flat; apex of northwestern portion of Maurice Ewing Bank.

Logged by: Ciesielski, DeFelice, Emerick, Kaharoeddin

ISLAS ORCADAS PC 0775-47



LATITUDE: 50°32.9′ S CORR. DEPTH: 1517 M, 829 FM.

LONGITUDE: 45°18.4′ W CORE LENGTH: 282 CM

LITHOLOGIC DESCRIPTION

0-21 cm: Foraminiferal-diatomaceous ooze, very light gray (N8); broken piece of liner at top, hence, zero depth is probably not surface sample; gradational contact.

smear slide:	10 cm
Quartz and Feldspar	2
Volcanic glass	2
Glauconite	1
Micro-Mn nodules	<1
Foraminifera	43
Diatoms	47
Radiolarians	5
Silicoflagellates	<1

Percent Carbonate (10-11 cm): 43.7 (18-19 cm): 7.8

21-44 cm: Gravelly, sandy, diatomaceous ooze, olive gray (5Y 4/1) with moderate olive brown mottling (5Y 4/4); gradational contact.

smear slide:	25 cm		
Quartz and Feldspar	8	Calcareous nannos	2
Heavy minerals	1	Diatoms	74
Volcanic glass	1	Radiolarians	5
Glauconite	5	Sponge spicules	<1
Foraminifera	3		

Percent Carbonate (25-26 cm): 1.4 (39-40 cm): 2.2

44-59 cm: Radiolarian ooze, moderate olive brown (5Y 4/4) with moderate yellowish brown mottling (10YR 5/4); sharp contact.

smear slide:	45 cm
Heavy minerals	<1
Volcanic glass	8
Glauconite	<1
Diatoms	10
Radiolarians	80
Sponge spicules	1

Percent Carbonate (45-46 cm): 4.4 (50-51 cm): 2.4

59-75 cm: Siliceous ooze, light olive brown (5Y 5/6); nannofossils in lower part of unit; gradational contact.

smear slide:	65 cm
Quartz and Feldspar	7
Volcanic glass	2
Diatoms	45
Radiolarians	44
Sponge spicules	2

Percent Carbonate (65-66 cm): 6.8

75-282 cm: Radiolarian, nannofossil ooze, pale greenish yellow (10Y 8/2); decreasing radiolarian content with depth; slightly bioturbated, top half of unit.

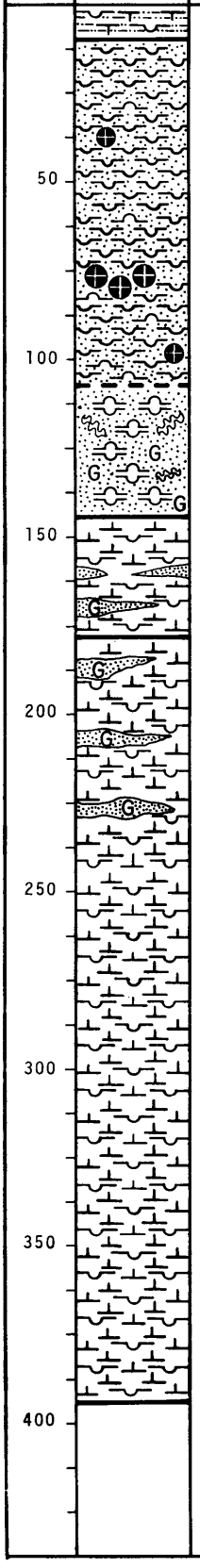
smear slides:	90 cm	130 cm	230 cm		90 cm	130 cm	230 cm
Heavy minerals	-	-	1	Diatoms	5	5	2
Volcanic glass	10	2	5	Radiolarians	40	30	10
Foraminifera	<1	5	-	Sponge spicules	<1	1	-
Calcareous nannos	45	55	82	Silicoflagellates	-	2	-

Percent Carbonate (90-91 cm): 47.9 (130-131 cm): 63.0 (230-231 cm): 77.2

Bottom topography: very gently sloping; apex of northwestern portion of Maurice Ewing Bank.

Logged by: Kaharoeddin, Abrahams, Emerick

ISLAS ORCADAS PC 0775-48



LATITUDE: 50°38.5′ S CORR. DEPTH: 1493 M, 816 FM.

LONGITUDE: 46°04.7′ W CORE LENGTH: 394 CM

LITHOLOGIC DESCRIPTION

0-10 cm; Muddy, diatomaceous-foraminiferal ooze, yellowish gray (5Y 7/2); increasing glauconite content with depth; vague lamination at base of unit; sharp contact.

smear slide:	2 cm
Quartz and Feldspar	5
Clay	40
Glauconite	2
Foraminifera	30
Diatoms	21
Radiolarians	2

Percent Carbonate (2-3 cm): 51.2

10-107 cm: Sandy diatomaceous ooze, olive gray (5Y 3/2); scattered sedimentary clasts, predominantly at 70-80 cm; increasing radiolarian content with depth; gradational contact.

smear slides:	20 cm	60 cm
Quartz and Feldspar	15	20
Clay	5	-
Glauconite	5	8
Diatoms	65	30
Radiolarians	10	30
Sponge spicules	<1	10
Silicoflagellates	<1	2

Percent Carbonate (20-21 cm): 3.5 (60-61 cm): 2.5

107-145 cm: Glauconitic, sandy, siliceous ooze, grayish olive (10Y 4/2); considerable bioturbation; sharp contact.

smear slide:	120 cm		
Quartz and Feldspar	20	Radiolarians	35
Glauconite	20	Sponge spicules	5
Diatoms	20	Silicoflagellates	<1

Percent Carbonate (120-121 cm): 4.0

145-178 cm: Diatomaceous nannofossil ooze, greenish gray (5GY 6/1); stringers of sand rich in glauconite; sharp contact.

smear slide:	160 cm		
Quartz and Feldspar	3	Diatoms	25
Volcanic glass	<1	Radiolarians	10
Glauconite	10	Sponge spicules	10
Calcareous nannos	42	Silicoflagellates	<1

Percent Carbonate (160-161 cm) 31.1

178-394 cm: Diatomaceous nannofossil ooze, greenish gray (5GY 6/1); color changes at 193-226 cm to yellowish gray (5Y 7/2), and at 226-394 cm to very light gray (N8); stringers of sand containing glauconite at top of unit; nannofossils increasing from 45 to 60%, and diatoms decreasing from 40 to 35% with depth.

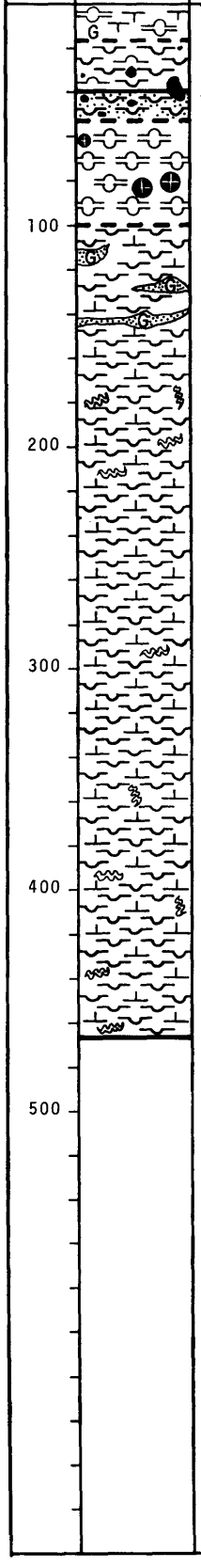
smear slides:	185 cm	210 cm	260 cm
Clay	-	2	2
Calcareous nannos	45	55	60
Diatoms	40	40	35
Radiolarians	10	2	2
Sponge spicules	5	-	1
Silicoflagellates	-	1	<1

Percent Carbonate (185-186 cm): 33.0 (210-211 cm): 47.9 (260-261 cm): 67.9

Bottom topography: flat; apex of northwestern portion of Maurice Ewing Bank.

Logged by: Kaharoeddin, Ciesielski, Ray, Abrahams, Emerick, Zemmels

ISLAS ORCADAS PC 0775-49



LATITUDE: 50°44.1′ S CORR. DEPTH: 1784 M, 975 FM.

LONGITUDE: 46°20.2′ W CORE LENGTH: 467 CM

LITHOLOGIC DESCRIPTION

0-17 cm: Glauconitic, siliceous, foraminiferal ooze, yellowish gray (5Y 8/1); stringers of sand containing abundant glauconite; units very disturbed from 0-53 cm; gradational contact.

smear slide:	10 cm		
Quartz and Feldspar	7	Diatoms	10
Heavy minerals	1	Radiolarians	6
Volcanic glass	<1	Sponge spicules	<1
Glauconite	18	Silicoflagellates	1
Foraminifera	57		

Percent Carbonate (10-12 cm): 36.4

17-40 cm: Radiolarian, diatomaceous ooze, light olive gray (5Y 5/2); stringers of glauconitic sand; scattered granules and large pebbles; sharp contact.

smear slide:	35 cm		
Quartz and Feldspar	4	Diatoms	43
Heavy minerals	1	Radiolarians	30
Volcanic glass	1	Sponge spicules	<1
Glauconite	11	Silicoflagellates	<1
Foraminifera	10		

Percent Carbonate (35-37 cm): 8.2

40-53 cm: Pebbly, sandy diatomaceous ooze, dusky yellowish brown (10YR 2/2); abundant glauconite; gradational contact.

smear slide:	50 cm		
Quartz and Feldspar	26	Diatoms	40
Mica	3	Radiolarians	10
Heavy minerals	1	Sponge spicules	1
Volcanic glass	3	Silicoflagellates	<1
Glauconite	16		

Percent Carbonate (50-52 cm): 1.0

53-100 cm: Siliceous ooze, olive gray (5Y 3/2); pebble-size sedimentary clasts from 80-100 cm; gradational contact.

smear slide:	77 cm		
Quartz and Feldspar	10	Diatoms	36
Heavy minerals	1	Radiolarians	38
Clay	5	Sponge spicules	2
Volcanic glass	1	Silicoflagellates	<1
Glauconite	7		

Percent Carbonate (77-79 cm): 1.9

100-467 cm: Nannofossil, diatomaceous ooze, light olive gray (5Y 5/2) to yellowish gray (5Y 7/2); stringers of sand containing glauconite; slightly bioturbated at some intervals; increasing nannofossils and decreasing diatoms toward lower portion of unit.

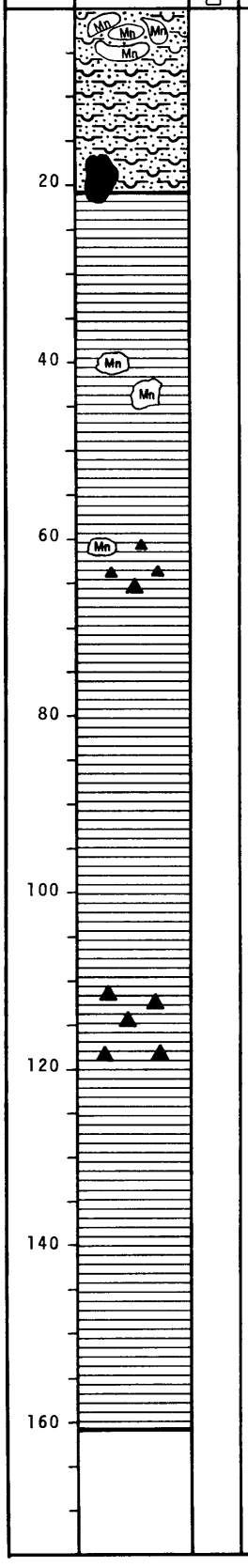
smear slides:	115 cm	190 cm	400 cm
Quartz and Feldspar	<1	<1	-
Clay	1	-	-
Volcanic glass	-	<1	-
Glauconite	<1	-	-
Foraminifera	-	<1	5
Calcareous nannos	-	15	30
Diatoms	95	83	64
Radiolarians	1	1	1
Silicoflagellates	2	<1	<1

Percent Carbonate (115-117 cm): 2.6 (190-192 cm): 25.5 (398-400 cm): 44.6

Bottom topography: gently sloping, western flank of Maurice Ewing Bank.

Logged by: Ciesielski, Kaharoeddin, Ray

ISLAS ORCADAS PC 0775-50



LATITUDE: 50°51.5′ S CORR. DEPTH: 2344 M, 1281 FM.

LONGITUDE: 46°46.1′ W CORE LENGTH: 161 CM

LITHOLOGIC DESCRIPTION

0-21 cm: Sandy, diatomaceous ooze, light olive gray (5Y 5/2); mottling (5Y 5/6); fragments of manganese nodules between 0 and 6 cm; very large pebble between 17 and 22 cm; sharp contact.

smear slide:	7 cm
Quartz and Feldspar	15
Heavy minerals	1
Glauconite	10
Foraminifera	<1
Calcareous nannos	<1
Diatoms	63
Radiolarians	10
Silicoflagellates	<1

Percent Carbonate (6-7 cm): 2.1

21-161 cm: Pelagic clay, yellowish gray (5Y 7/2) to dusky yellow (5Y 6/4); zeolites at top of unit; manganese nodules from 39 to 46 cm, and from 61 to 63 cm; chert fragments from 60 to 67 cm, and 112 to 118 cm.

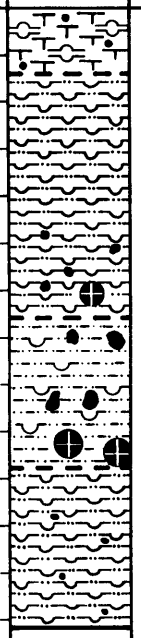
smear slides:	26 cm	86 cm
Quartz and Feldspar	1	<1
Heavy minerals	-	1
Clay	93	88
Zeolite	5	-
Volcanic glass	-	4
Glauconite	-	5
Calcareous nannos	-	<1
Diatoms	1	<1
Radiolarians	-	1
Sponge spicules	<1	-

Percent Carbonate (26-27 cm): 23.9 (86-87 cm): 4.3

Bottom topography: gently sloping, base of western flank of Maurice Ewing Bank.

Logged by: Kaharoeddin, Ciesielski

ISLAS ORCADAS PC 0775-51



LATITUDE: 50°57.3' S CORR. DEPTH: 2547 M, 1392 FM.

LONGITUDE: 47°02.1 W CORE LENGTH: 66 CM

LITHOLOGIC DESCRIPTION

0-7 cm: Siliceous, foraminiferal ooze, very light gray (N8); gravel (to 1 cm) scattered throughout; radiolarian content increasing with depth; gradational contact.

smear slide:	3 cm		
Quartz and Feldspar	12	Diatoms	25
Clay	15	Radiolarians	2
Volcanic glass	<1	Sponge spicules	1
Foraminifera	45	Silicoflagellates	<1

7-33 cm: Muddy, diatomaceous ooze, light olive gray (5Y 5/2); glauconite scattered throughout; gravel (to 3 cm) from 23 to 30 cm; sedimentary clast (3 cm) at 31 cm; gradational contact.

smear slides:	15 cm	28 cm		15 cm	28 cm
Quartz and Feldspar	15	8	Diatoms	58	45
Clay	25	30	Radiolarians	2	3
Volcanic glass	<1	3	Sponge spicules	<1	<1
Glauconite	-	3	Silicoflagellates	<1	<1
Foraminifera	-	8			

Percent Carbonate (15-16 cm): 1.7 (28-29 cm): 2.5

33-49 cm: Pebbly diatomaceous mud, dark yellowish orange (10YR 6/6); glauconite scattered throughout; semi-consolidated mudstone sedimentary clasts from 45 to 49 cm; gradational contact.

smear slide:	34 cm
Quartz and Feldspar	12
Clay	62
Glauconite	2
Diatoms	20
Radiolarians	3
Sponge spicules	1

49-66 cm: Muddy, diatomaceous ooze, light olive brown (5Y 5/6); gravel (to 1.5 cm) scattered throughout.

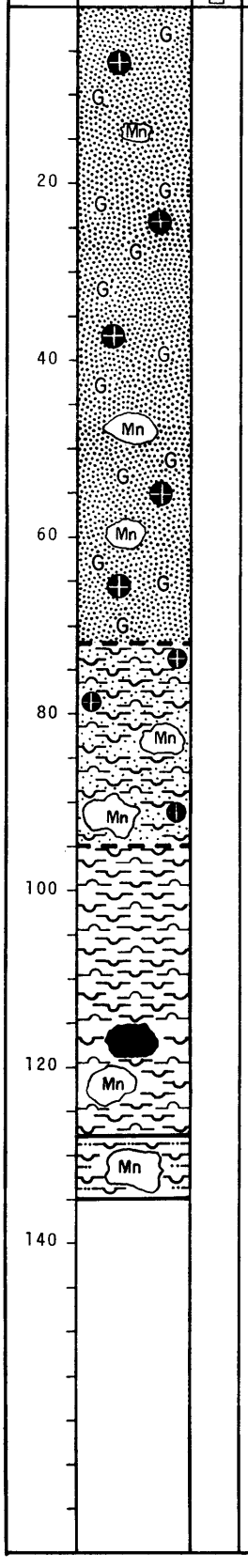
smear slide:	50 cm
Quartz and Feldspar	10
Heavy minerals	1
Clay	30
Volcanic glass	3
Glauconite	8
Diatoms	37
Radiolarians	10
Sponge spicules	<1
Silicoflagellates	1

Percent Carbonate (50-51 cm): 1.4

Bottom topography: gently sloping, western flank of knolls at base of western portion of Maurice Ewing Bank.

Logged by: Kaharoeddin

ISLAS ORCADAS PC 0775-52



LATITUDE: 50°54.7′ S CORR. DEPTH: 2558 M, 1398 FM.

LONGITUDE: 46°50.0′ W CORE LENGTH: 135 CM

LITHOLOGIC DESCRIPTION

0-72 cm: Glauconitic sand, top half olive black (5Y 2/1), and bottom half olive gray (5Y 3/2); increasing glauconite content with depth; scattered pebble-sized sedimentary clasts; manganese nodules from 13 to 16 cm, 45 to 50 cm and 56 to 60 cm; gradational contact.

smear slides:	7 cm	39 cm
Quartz and Feldspar	35	35
Heavy minerals	-	5
Volcanic glass	10	10
Glauconite	36	40
Foraminifera	10	-
Diatoms	5	3
Radiolarians	4	5
Sponge spicules	-	2

Percent Carbonate (7-8 cm): 3.8 (39-40 cm): 1.4

72-95 cm: Sandy, radiolarian, diatomaceous ooze, yellowish gray (5Y 7/2) to light olive brown (5Y 5/6); scattered granule to pebble-sized sedimentary clasts; manganese nodules from 82 to 85 cm and 87 to 95 cm; decreasing radiolarians, and increasing diatoms with depth; gradational contact.

smear slides:	75 cm	84 cm
Quartz and Feldspar	15	8
Volcanic glass	15	-
Glauconite	5	2
Diatoms	34	60
Radiolarians	20	10
Sponge spicules	10	20
Silicoflagellates	1	-

Percent Carbonate (75-76 cm): 1.2 (89-90 cm): 1.8

95-128 cm: Radiolarian, diatomaceous ooze, yellowish gray (5Y 7/2), and light olive brown (5Y 5/6); large pebble from 115 to 119 cm; manganese nodule from 120 to 125 cm; sharp contact.

smear slide:	113 cm
Quartz and Feldspar	5
Volcanic glass	3
Glauconite	2
Diatoms	70
Radiolarians	15
Sponge spicules	5

Percent Carbonate (113-114 cm): 2.0

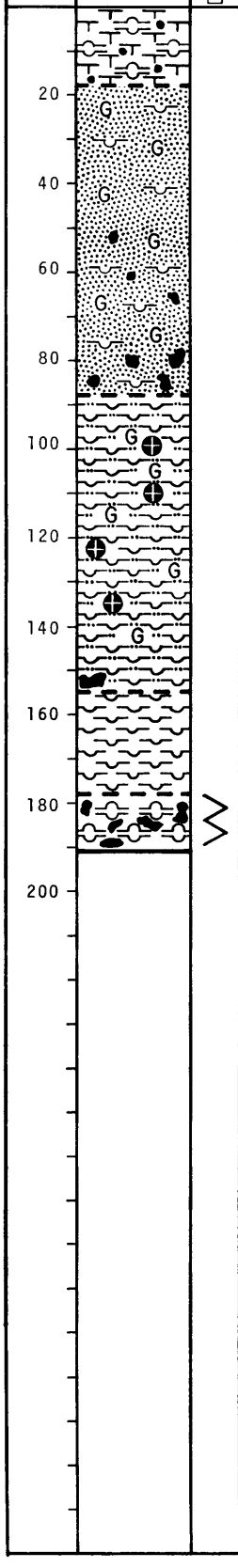
128-135 cm: Muddy, diatomaceous ooze, olive black (5Y 2/1); oxidized manganese nodule with botryoidal structure, brown black (5YR 2/1), from 128 to 134.5 cm.

smear slide:	131 cm
Quartz and Feldspar	7
Clay	30
Micro-Mn nodules	3
Diatoms	59
Radiolarians	1

Bottom topography: flat; base of western flank of Maurice Ewing Bank.

Logged by: Ciesielski, DeFelice, Emerick

ISLAS ORCADAS PC 0775-53



LATITUDE: 50°52.0′ S CORR. DEPTH: 2229 M, 1218 FM.

LONGITUDE: 46°36.6′ W CORE LENGTH: 191 CM

LITHOLOGIC DESCRIPTION

0-18 cm: Siliceous, foraminiferal ooze, very light gray (N8); glauconite throughout in irregular laminae; scattered pebbles; gradational contact.

smear slide:	10 cm
Quartz and Feldspar	2
Glauconite	3
Foraminifera	50
Calcareous nannos	10
Diatoms	25
Radiolarians	10
Silicoflagellates	<1

Percent Carbonate (10-11 cm): 40.6

18-88 cm: Diatomaceous, glauconitic quartz sand, moderate olive brown (5Y 4/4); diatom content and clay content increasing with depth; gravel (to 3 cm) scattered from 52-88 cm, particularly concentrated from 80-88 cm; gradational contact.

smear slides:	30 cm	70 cm
Quartz and Feldspar	45	40
Clay	7	10
Glauconite	18	18
Diatoms	20	25
Radiolarians	5	7
Sponge spicules	5	-

Percent Carbonate (30-31 cm): 1.1 (70-71 cm): 1.6

88-155 cm: Glauconitic, muddy, diatomaceous ooze, olive gray (5Y 3/2); scattered, semi-indurated clay sedimentary clasts (5 to 20 mm), grayish green (5G 5/2); basaltic pebble at base of unit; decreasing glauconite content with depth; gradational contact.

smear slides:	95 cm	130 cm
Quartz and Feldspar	20	15
Clay	27	25
Volcanic glass	1	1
Glauconite	10	5
Diatoms	35	39
Radiolarians	5	15
Sponge spicules	2	<1

Percent Carbonate (95-96 cm): 3.8

155-178 cm: Diatomaceous ooze, greenish gray (5GY 6/1); gradational contact.

smear slide:	170 cm
Quartz and Feldspar	5
Clay	10
Glauconite	1
Diatoms	80
Sponge spicules	4

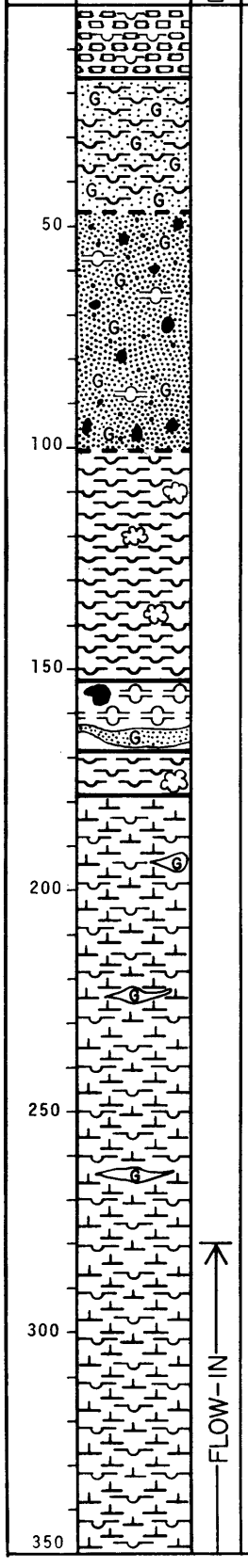
Percent Carbonate (170-171 cm): 2.4

178-191 cm: Gravelly siliceous ooze; unit disturbed (washed); gravel (to 2 cm).

Bottom topography: gently sloping, western flank of Maurice Ewing Bank.

Logged by: Kaharoeddin

ISLAS ORCADAS PC 0775-54



LATITUDE: 50°36.0′ S CORR. DEPTH: 1856 M, 1014 FM.

LONGITUDE: 46°23.1′ W CORE LENGTH: 367 CM

LITHOLOGIC DESCRIPTION

0-17 cm: Diatomaceous, calcareous ooze, very light gray (N8); foraminiferal, diatomaceous ooze from 0 to 2 cm; glauconite content increasing between 9 and 17 cm; some vague laminations at the bottom part of the unit; sharp contact.

smear slides:	0 cm	10 cm		0 cm	10 cm
Quartz and Feldspar	5	5	Foraminifera	25	25
Clay	10	25	Diatoms	53	20
Volcanic glass	1	-	Radiolarians	3	1
Glauconite	2	3	Sponge spicules	-	1
Carbonate unspecified	-	20	Silicoflagellates	1	-

Percent Carbonate (10-11 cm): 35.4

17-47 cm: Glauconitic, sandy, diatomaceous ooze, moderate olive brown (5Y 4/4); gradational contact.

smear slide:	20 cm		
Quartz and Feldspar	10	Glauconite	15
Clay	10	Diatoms	50
Volcanic glass	10	Radiolarians	5
Palagonite	<1		

Percent Carbonate (30-31 cm): 2.0

47-101 cm: Gravelly, glauconitic sand, dark greenish gray (5GY 4/1); contains small amount of diatoms and radiolarians; gradational contact.

smear slide:	60 cm		
Quartz and Feldspar	35	Diatoms	15
Clay	10	Radiolarians	15
Glauconite	25		

Percent Carbonate (60-61 cm): 1.8

101-153 cm: Diatomaceous ooze, grayish green (10GY 5/2); mottling of fine sand containing glauconite; sharp contact.

smear slides:	125 cm	135 cm		125 cm	135 cm
Quartz and Feldspar	10	5	Diatoms	58	84
Clay	5	-	Radiolarians	15	10
Volcanic glass	4	-	Silicoflagellates	2	1
Glauconite	6	<1			

Percent Carbonate (125-126 cm): 2.1 (135-136 cm): 3.1

153-169 cm: Siliceous ooze with finely laminated glauconite sand, greenish black (5GY 2/1); large pebble in upper section of unit; sharp contact.

smear slide: (mainly laminated sand)	162 cm
Quartz and Feldspar	20
Clay	3
Volcanic glass	2
Glauconite	60
Diatoms	8
Radiolarians	7

Percent Carbonate (162-163 cm): 4.3

169-179 cm: Diatomaceous ooze, greenish gray (5GY 6/1); some mottling at the bottom part of unit; sharp contact.

smear slide:	175 cm		
Quartz and Feldspar	2	Diatoms	85
Clay	2	Radiolarians	10
Glauconite	1		

Percent Carbonate (175-176 cm): 4.7

CONTINUED - NEXT PAGE

Logged by: Kaharoeddin, Abrahams, Emerick

ISLAS ORCADAS PC 0775-54

LENGTH (cm) | LITHOLOGY | DEFORMATION

LATITUDE: 50°36.0′ S CORR. DEPTH: 1856M, 1014 FM.

LONGITUDE: 46°23.1′ W CORE LENGTH: 367 CM

LITHOLOGIC DESCRIPTION

CONTINUED

179-367 cm: Diatomaceous, nannofossil ooze, dusky yellow green (5GY 5/2) at top, and grayish green (5GY 6/1) at bottom; contains minor stringers of glauconite-rich siliceous ooze; bottom 87 cm (280 to 367 cm) of unit disturbed (flow-in); gradational change to flow-in.

400

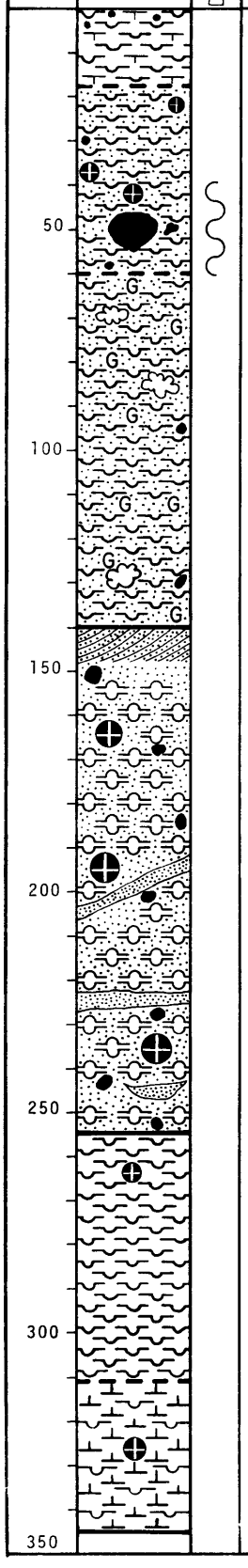
smear slide:	200 cm
Quartz and Feldspar	1
Volcanic glass	1
Calcareous nannos	53
Diatoms	40
Radiolarians	5

Percent Carbonate (200-201 cm): 9.6

Bottom topography: gently sloping, western flank of Maurice Ewing Bank.

Logged by: Kaharoeddin, Abrahams, Emerick

ISLAS ORCADAS PC 0775-55



LATITUDE: 50°38.0′ S CORR. DEPTH: 2255 M, 1232 FM.

LONGITUDE: 46°39.1′ W CORE LENGTH: 345 CM

LITHOLOGIC DESCRIPTION

0-18 cm: Foraminiferal, diatomaceous ooze, yellowish gray (5Y 7/1); increasing glauconite toward bottom of unit; a few fine quartzose pebbles at top; gradational contact.

smear slide: 2 cm

Quartz and Feldspar	3	Diatoms	59
Heavy minerals	<1	Radiolarians	4
Volcanic glass	<1	Sponge spicules	1
Glauconite	1	Silicoflagellates	1
Foraminifera	30		

Percent Carbonate (0-1 cm): 40.4

18-60 cm: Gravelly, sandy diatomaceous ooze, olive gray (5Y 3/2); glauconite throughout; numerous sedimentary clasts (ranging from 3 to 30 mm); unit moderately disturbed (washed) from 40 to 60 cm; gradational contact.

smear slide: 30 cm

Quartz and Feldspar	20	Diatoms	60
Heavy minerals	4	Radiolarians	5
Volcanic glass	3	Sponge spicules	<1
Glauconite	7	Silicoflagellates	<1

Percent Carbonate (30-31 cm): 1.4

60-140 cm: Glauconitic, sandy diatomaceous ooze, dark greenish gray (5G 4/1); mottled with grayish olive green (5GY 3/2) of high glauconite content; sharp contact.

smear slide: 100 cm

Quartz and Feldspar	30	Radiolarians	5
Glauconite	20	Sponge spicules	<1
Diatoms	45	Silicoflagellates	<1

Percent Carbonate (100-101 cm): 2.2

140-255 cm: Sandy, siliceous ooze, olive gray (5Y 4/1); scattered glauconite, gravels, pebbles and sedimentary clasts up to 3 cm; scattered sand lenses; sharp contact.

smear slide: 160 cm

Quartz and Feldspar	40	Diatoms	29
Heavy minerals	2	Radiolarians	11
Volcanic glass	5	Sponge spicules	2
Glauconite	10	Silicoflagellates	1

Percent Carbonate (160-161 cm): 7.2

255-311 cm: Diatomaceous ooze, yellowish gray (5Y 8/1); sedimentary clast at 266 cm consisting almost entirely of sand and glauconite; bottom part of unit contains nannofossils; gradational contact.

smear slide: 280 cm

Zeolites	4	Radiolarians	<1
Diatoms	93	Silicoflagellates	2

Percent Carbonate (280-281 cm): 4.7

311-345 cm: Diatomaceous, nannofossil ooze, yellowish gray (5Y 7/2); sedimentary clast at 322 cm consisting almost entirely of sand and glauconite.

smear slide: 330 cm

Clay	1	Diatoms	25
Foraminifera	<1	Radiolarians	<1
Calcareous nannos	72	Silicoflagellates	1

Percent Carbonate (330-331 cm): 55.5

Bottom topography: gently sloping, western flank of Maurice Ewing Bank.

Logged by: Ciesielski, DeFelice, Emerick

ISLAS ORCADAS PC 0775-56

LATITUDE: 50°35.0′ S CORR. DEPTH: 2637 M, 1441 FM.

LONGITUDE: 47° 27.2′ W CORE LENGTH: 10 CM

LENGTH (cm)	LITHOLOGY	DEFORMATION
10	Mn	

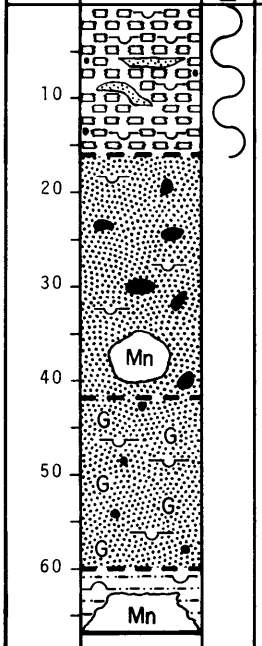
LITHOLOGIC DESCRIPTION

0-10 cm: Manganese nodule (6 cm), black (N1); mud matrix rich in manganese oxide and containing some foraminifera; some pebbles coated with manganese oxide; core liner imploded.

Bottom topography: sloping, eastern flank of knolls near the base of the western flank of the Maurice Ewing Bank.

Logged by: Kaharoeddin

ISLAS ORCADAS PC 0775-57



LATITUDE: 50°34.9′ S CORR. DEPTH: 2525 M, 1380 FM.

LONGITUDE: 47°30.7′ W CORE LENGTH: 66 CM

LITHOLOGIC DESCRIPTION

0-16 cm: Diatomaceous, calcareous ooze, yellowish gray (5Y 7/2); some basaltic granules (to 4 mm) and stringers of sand; unit appears to be slightly disturbed (washed); gradational contact.

smear slide:	10 cm
Quartz and Feldspar	5
Volcanic glass	2
Glauconite	1
Carbonate unspecified	55
Foraminifera	20
Diatoms	15
Radiolarians	1
Sponge spicules	1

Percent Carbonate (10-11 cm): 41.3

16-42 cm: Gravelly, diatomaceous sand, dark yellowish brown (10YR 4/2); glauconite and a large manganese nodule at base of unit; gradational contact.

Percent Carbonate (30-31 cm): 1.7

42-60 cm: Diatomaceous, glauconitic sand, light olive brown (5Y 5/6); scattered pebbles (to 30 mm); gradational contact.

smear slide:	50 cm
Quartz and Feldspar	30
Clay	20
Volcanic glass	5
Glauconite	25
Diatoms	20

Percent Carbonate (50-51 cm): 1.8

60-66 cm: Radiolarian, diatomaceous mud, dusky yellow (5Y 6/4); contains manganese.

smear slide:	63 cm
Quartz and Feldspar	25
Clay	40
Volcanic glass	3
Glauconite	2
Diatoms	20
Radiolarians	10
Sponge spicules	<1
Silicoflagellates	<1

Percent Carbonate (63-64 cm): 3.4

Bottom topography: moderately sloping, eastern flank of knolls at base of western flank of Maurice Ewing Bank.

Logged by: Kaharoeddin, Ray, Abrahams, DeFelice

ISLAS ORCADAS CRUISE 0775

DESCRIPTIONS OF TRIGGER CORES AND TRIGGER CORE BAG SAMPLES

TC 0775-4

Latitude: 47°49.1' S
Longitude: 37°02.3' W
Water Depth: 5616 m
Core Length: 56 cm

0-7 cm: Mud, dark yellowish brown (10YR 4/2); sharp contact.

7-56 cm: Diatomaceous mud, moderate yellowish brown (10YR 5/4); a 2 cm lamina of mud, dusky brown (5YR 2/2) at 18-20 cm; a 1 cm gravel at 50 cm.

Smear Slide: 13 cm

Quartz and Feldspar	12	Micro-Mn nodules	1
Clay	15	Diatoms	40
Volcanic glass	32		

TC 0775-5

Latitude: 48°51.2' S
Longitude: 36°33.3' W
Water Depth: 4895 m
Core Length: 54 cm

0-54 cm: Diatomaceous mud, pale yellowish brown (10YR 6/2; micromanganese nodules and gravel (to 1.5 cm) scattered throughout.

Smear Slide: 12 cm

Quartz and Feldspar	40	Volcanic glass	8
Heavy minerals	<1	Micro-Mn nodules	<1
Clay	15	Diatoms	36

TC 0775-6

Latitude: 48°42.2' S
Longitude: 35°03.6' W
Water Depth: 5087 m
Core Length: 54 cm

0-54 cm: Diatomaceous mud, dark yellowish brown (10YR 4/2) with scattered gravel (to 2 cm), mostly angular.

Smear Slide: 11 cm

Quartz and Feldspar	10	Diatoms	24
Heavy minerals	2	Radiolarians	1
Clay	60	Sponge spicules	<1
Volcanic glass	2	Silicoflagellates	<1

TC 0775-7

Latitude: 47°57.4' S
Longitude: 34°59.6' W
Water Depth: 5298 m
Core Length: 55 cm

0-55 cm: Mud, dark yellowish brown (10YR 4/2), with dessicated manganese nodules at 0-5 cm, with scattered gravel (to 0.5 cm) coated with Fe-Mn oxide.

Smear Slide: 15 cm

Quartz and Feldspar	56	Micro-Mn nodules	<1
Heavy minerals	1	Diatoms	7
Volcanic glass	35	Radiolarians	<1

TC 0775-8

Latitude: 47°46.2' S
Longitude: 29°28.5' W
Water Depth: 4712 m
Core Length: 50 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-9

Latitude: 47°51.3' S
Longitude: 29°10.0' W
Water Depth: 4535 m
Core Length: 44 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-11

Latitude: 49°58.8' S
Longitude: 25°54.9' W
Water Depth: 4610 m
Core Length: 30 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-12

Latitude: 49°29.9' S
Longitude: 33°58.6' W
Water Depth: 5080 m
Core Length: 37 cm

0-37 cm: Muddy, diatomaceous ooze, light olive gray (5Y 5/2); a 2 cm gravel at 3 cm; scattered micromanganese nodules.

Smear Slide: 6 cm

Quartz and Feldspar	15	Micro-Mn nodules	<1
Heavy minerals	<1	Diatoms	63
Clay	15	Radiolarians	2
Volcanic glass	3	Silicoflagellates	1

TC 0775-13

Latitude: 49°31.1' S
Longitude: 34°58.2' W
Water Depth: 4967 m
Core Length: 34 cm

0-34 cm: Diatomaceous ooze, light olive gray (5Y 5/2); a 3 cm gravel at 28 cm; micromanganese nodules scattered throughout.

Smear Slide: 7 cm

Quartz and Feldspar	15	Diatoms	73
Clay	5	Radiolarians	2
Volcanic glass	3	Sponge spicules	2

TC 0775-14

Latitude: 48°48.1' S
Longitude: 35°37.6' W
Water Depth 4989 m
Core Length: Bag Sample

A 4 cm diameter Mn nodule in matrix of diatomaceous ooze, light gray (N7).

Smear Slide (of ooze):

Quartz and Feldspar	4	Diatoms	82
Heavy minerals	<1	Radiolarians	2
Clay	10	Sponge spicules	<1
Micro-Mn nodules	2		

TC 0775-15

Latitude: 49°31.4' S
Longitude: 36°02.2' W
Water Depth: 4707 m
Core Length: 33 cm

0-12 cm: Diatomaceous mud, light olive gray (5Y 5/2); a 2 cm gravel at 2 cm; sharp contact.

12-33 cm: Diatomaceous ooze, moderate yellowish brown (10YR 5/4); a 2 cm brown slate at 18 cm; scattered micromanganese nodules.

Smear Slides:	5 cm	24 cm
Quartz and Feldspar	8	3
Heavy minerals	1	<1
Clay	60	-
Volcanic glass	2	4
Micro-Mn nodules	<1	1
Carbonate unspecified	-	<1
Diatoms	25	83
Radiolarians	3	7
Sponge spicules	<1	1
Silicoflagellates	-	<1

TC 0775-16

Latitude: 50°36.5' S
Longitude: 31°46.0' W
Water Depth: 4440 m
Core Length: 12 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-17

Latitude: 50°58.1' S
Longitude: 24°39.9' W
Water Depth: 4139 m
Core Length: 22 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-18

Latitude: 51°36.9' S
Longitude: 27°24.0' W
Water Depth: 4194 m
Core Length: 40 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-20

Latitude: 52°30.4' S
Longitude: 31°49.5' W
Water Depth: 3395 m
Core Length: 21 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-21

Latitude: 52°35.5' S
Longitude: 27°16.4' W
Water Depth: 4639 m
Core Length: 24 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-25

Latitude: 56°34.7' S
Longitude: 20°17.2' W
Water Depth: 5014 m
Core Length: 23 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-27

Latitude: 57°02.7' S
Longitude: 23°34.3' W
Water Depth 5020 m
Core Length: 36 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-29

Latitude: 57°11.6' S
Longitude: 25°29.6' W
Water Depth: 3504 m
Core Length: 15 cm

Core description not available at this time. Core has not been opened due to special handling and sampling requirements of principal investigator (Detlef Warnke). Data will be included in next volume of core descriptions.

TC 0775-32

Latitude: 56°14.0' S
Longitude: 30°36.1' W
Water Depth: 2933 m
Core Length: 21 cm

0-21 cm: Diatomaceous ooze, light olive brown (5Y 5/6), with brown mottling.

Smear Slide: 8 cm

Quartz and Feldspar	1	Diatoms	70
Heavy minerals	<1	Radiolarians	1
Clay	20	Sponge spicules	<1
Volcanic glass	6	Silicoflagellates	1
Micro-Mn nodules	<1		

TC 0775-33

Latitude: 55°11.6' S
Longitude: 30°26.4' W
Water Depth: 4623 m
Core Length: 28 cm

0-28 cm: Diatomaceous ooze; 0-16 cm, dark yellowish brown (10YR 4/2); 16-28 cm, light olive gray (5Y 5/2); scattered micromanganese nodules in upper part of unit.

Smear Slides:

	8 cm	17 cm
Quartz and Feldspar	4	4
Heavy minerals	1	1
Volcanic glass	3	2
Micro-Mn nodules	1	-
Carbonate unspecified	8	1
Diatoms	83	91
Radiolarians	-	1

TC 0775-34

Latitude: 55°08.2' S
Longitude: 31°05.5' W
Water Depth: 5073 m
Core Length: 22 cm

0-22 cm: Diatomaceous ooze, light olive gray (5Y 5/2); with oxidized section at top of unit (0-7 cm), moderate brown (5YR 3/4).

TC 0775-34 (Continued)

Smear Slides:	5 cm	13 cm
Quartz and Feldspar	1	2
Heavy minerals	1	1
Clay	15	15
Volcanic glass	5	2
Carbonate unspecified	-	2
Foraminifera	<1	<1
Diatoms	76	75
Radiolarians	<1	<1
Silicoflagellates	1	2

TC 0775-37

Latitude: 52°41.3' S
Longitude: 42°05.9' W
Water Depth: 2782 m
Core Length: 7 cm

0-7 cm: Diatomaceous ooze, moderate olive brown (5Y 4/4).

Smear Slide: 3 cm

Quartz and Feldspar	3	Carbonate unspecified	2
Heavy minerals	1	Diatoms	88
Clay	2	Radiolarians	2
Micro-Mn nodules	<1	Silicoflagellates	1

TC 0775-38

Latitude: 52°25.8' S
Longitude: 42°10.5' W
Water Depth: 3603 m
Core Length: Bag Sample

Diatomaceous ooze, light olive gray (5Y 5/2).

Smear Slide:

Quartz and Feldspar	2	Diatoms	95
Heavy minerals	<1	Radiolarians	<1
Volcanic glass	<1	Sponge spicules	<1
Micro-Mn nodules	<1	Silicoflagellates	<1

TC 0775-40

Latitude: 50°18.2' S
Longitude: 43°25.0' W
Water Depth: 1605 m
Core Length: 25 cm

0-25 cm: Diatomaceous, calcareous ooze; 0-16 cm, very light gray (N8); 16-25 cm, olive gray (5Y 4/1); abundant micromanganese nodules scattered throughout.

Smear Slide:	6 cm
Quartz and Feldspar	7
Clay	5
Volcanic glass	4
Micro-Mn nodules	<1
Foraminifera	20
Calcareous nannofossils	30
Diatoms	27
Radiolarians	5
Sponge spicules	1
Silicoflagellates	1

TC 0775-42

Latitude: 49°52.1' S
Longitude: 43°37.8' W
Water Depth: 2621 m
Core Length: 21 cm

0-21 cm: Diatomaceous mud; 0-9 cm, yellowish gray (5Y 8/1); 9-21 cm; light olive gray (5Y 5/2); abundant micromanganese nodules scattered throughout lower part of unit (9-21 cm).

TC 0775-42 (Continued)

Smear Slide:

	6 cm
Quartz and Feldspar	2
Heavy minerals	<1
Clay	41
Volcanic glass	<1
Foraminifera	8
Calcareous nannofossils	<1
Diatoms	45
Radiolarians	2
Silicoflagellates	1

TC 0775-43

Latitude: 50°13.2' S
Longitude: 44°08.8' W
Water Depth: 1713 m
Core Length: 28 cm

0-20 cm: Calcareous nannofossil ooze; very light gray (N8); abundant micromanganese nodules scattered throughout; sharp contact.

20-28 cm: Diatomaceous ooze, grayish olive (10Y 4/2); abundant micromanganese nodules scattered throughout.

Smear Slides:

	6 cm	21 cm
Quartz and Feldspar	-	4
Heavy minerals	<1	<1
Clay	-	10
Volcanic glass	-	2
Micro-Mn nodules	-	1
Carbonate unspecified	6	-
Foraminifera	15	<1
Calcareous nannofossils	55	-
Diatoms	15	80
Radiolarians	8	2
Sponge spicules	<1	1

TC 0775-44

Latitude: 50°18.5' S
Longitude: 44°31.7' W
Water Depth: 1651 m
Core Length: 26 cm

0-26 cm: Calcareous, nannofossil-foraminiferal ooze, very light gray (N8); abundant micromanganese nodules scattered throughout.

Smear Slide:

	9 cm
Quartz and Feldspar	1
Heavy minerals	1
Volcanic glass	<1
Micro-Mn nodules	<1
Carbonate unspecified	15
Foraminifera	45
Calcareous nannofossils	29
Diatoms	6
Radiolarians	2

TC 0775-48

Latitude: 50°38.5' S
Longitude: 46°04.7' W
Water Depth: 1493 m
Core Length: Bag Sample

Calcareous mud, light gray(N7).

Smear Slide:

Quartz and Feldspar	1	Foraminifera	25
Heavy minerals	<1	Diatoms	6
Clay	62	Radiolarians	4
Volcanic glass	1	Sponge spicules	<1

TC 0775-49

Latitude: 50°44.1' S
Longitude: 46°20.2' W
Water Depth: 1784 m
Core Length: 23 cm

0-23 cm: Diatomaceous, calcareous ooze, very light gray (N8); gravel (to 0.5 cm); abundant micromanganese nodules scattered throughout.

Smear Slide:

	6 cm
Quartz and Feldspar	1
Clay	2
Volcanic glass	1
Micro-Mn nodules	1
Foraminifera	50
Calcareous nannofossils	25
Diatoms	15
Radiolarians	4
Sponge spicules	1
Silicoflagellates	<1

TC 0775-51

Latitude: 50°57.3' S
Longitude 47°02.1' W
Water Depth: 2547 m
Core Length: Bag Sample

Sandy, siliceous ooze, light olive gray (5Y 6/1).

Smear Slide:

Quartz and Feldspar	40	Diatoms	25
Heavy minerals	4	Radiolarians	10
Clay	4	Sponge spicules	4
Volcanic glass	8	Silicoflagellates	1
Micro-Mn nodules	4		

TC 0775-53

Latitude: 50°52.0' S
Longitude: 46°36.6' W
Water Depth: 2229 m
Core Length: 50 cm

0-15 cm: Diatomaceous, calcareous nannofossil ooze, very light gray (N8); abundant micromanganese nodules; sharp contact.

15-50 cm: Muddy, diatomaceous ooze, olive gray (5Y 4/1); abundant micromanganese nodules; scattered gravel (to 2 cm). This section was partly disturbed during extrusion. A 5 cm layer of calcareous ooze, very light gray (N8), intercalated with abundant micromanganese nodules at 27-32 cm.

Smear Slides:

	5 cm	16 cm
Quartz and Feldspar	-	13
Heavy minerals	-	5
Volcanic glass	2	20
Carbonate unspecified	6	6
Foraminifera	15	1
Calcareous nannofossils	40	4
Diatoms	30	50
Radiolarians	5	-
Sponge spicules	1	1
Silicoflagellates	1	-

TC 0775-54

Latitude: 50°36.0' S
Longitude: 46°23.1' W
Water Depth: 1856 m
Core Length: Bag Sample

Diatomaceous, calcareous mud, yellowish gray (5Y 7/2).

Smear Slide:

Quartz and Feldspar	1	Foraminifera	25
Heavy minerals	<1	Diatoms	10
Clay	60	Radiolarians	3
Volcanic glass	<1	Sponge spicules	<1

TC 0775-55

Latitude: 50°38.0' S
Longitude: 46°39.1' W
Water Depth: 2255 m
Core Length: Bag Sample

Diatomaceous, calcareous mud, yellowish gray (5Y 7/2).

Smear Slide:

Quartz and Feldspar	1	Diatoms	10
Heavy minerals	<1	Radiolarians	3
Clay	64	Sponge spicules	<1
Volcanic glass	<1	Silicoflagellates	1
Foraminifera	20		

TC 0775-57

Latitude: 50°34.9' S
Longitude: 47°30.7' W
Water Depth: 2525 m
Core Length: Bag Sample

Mud, light olive gray (5Y 5/2).

Smear Slide:

Quartz and Feldspar	4	Diatoms	10
Heavy minerals	1	Radiolarians	2
Clay	72	Sponge spicules	<1
Foraminifera	10	Silicoflagellates	<1

DESCRIPTIONS OF PISTON CORE BAG SAMPLES

PC 0775-3

Latitude: 49°23.9' S
Longitude: 39°12.9' W
Water Depth 3299 m
Core Length Bag Sample

Subangular to subrounded gravel (0.5 cm to 3 cm), mainly of basaltic composition; imbedded in muddy, diatomaceous ooze; washed.

PC 0775-8

Latitude: 47°46.2' S
Longitude: 29°28.5' W
Water Depth: 4712 m
Core Length: Bag Sample

Mud, light olive gray (5Y 5/2).

Smear Slide:

Quartz and Feldspar	7
Heavy minerals	1
Clay	80
Volcanic glass	<1
Diatoms	9
Radiolarians	2
Silicoflagellates	<1

PC 0775-39

Latitude: 51°58.4' S
Longitude: 42°21.7' W
Water Depth: 2694 m
Core Length: Bag Sample

Diamicton, mainly fine gravel (0.5 cm) and cobbles (to 5 cm); all gravel and cobble subangular to subrounded.

PC 0775-41

Latitude: 50°00.7' S
Longitude: 43°34.7' W
Water Depth: 2189 m
Core Length: Bag Sample

Diamicton, mainly fine gravel (0.5 cm), subangular; with cobbles (to 5 cm), subrounded.

DESCRIPTION OF ROCK DREDGE SAMPLE

RD 0775-30

Latitude: 56°48.5' S
Longitude: 29°49.2' W
Water Depth: 3272 m
Core Length: Dredge

Diatomaceous mud, light olive gray (5Y 5/2); mixed with mud, dark yellowish brown (10YR 4/2).

Above descriptions made by Kaharoeddin, MacKenzie, M. Weaver.

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DIVISION OF POLAR PROGRAMS
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The Foundation's objective is to assure (1) maximum availability of samples to qualified investigators, (2) analysis over a wide range of research disciplines without unnecessary duplication, and (3) prompt publication of results.

To obtain samples, an investigator first contacts the appropriate curator to determine that the needed material is available. The curator sends the investigator a form to be filled out or otherwise indicates the exact procedure to be followed. (For some specific types of samples see further instructions below.) The investigator sends the completed request for samples to the curator. The request must specify type and amount of samples required, purpose of research, and source of funding if funding is needed. The Division of Polar Programs or a designated advisory group authorizes distribution if warranted. Normally, a Division of Polar Programs grant for sample research automatically authorizes access to samples. Samples are not provided to investigators unless funding for the proposed research either is forthcoming or is not needed.

Investigator responsibilities

Investigators are responsible for:

1. Prompt publication of significant results, with acknowledgment of the National Science Foundation as the source of materials.

2. Submittal of annual letter reports to the curator citing publications resulting from the research and enclosing copies of the publications. If the investigator has not published in a particular year, he or she sends the curator a letter describing, very briefly, his progress over the last year.

3. Provision of a copy of the letter noted in item 2, and two copies of all published results, to the appropriate program manager in the Division of Polar Programs—whether or not the investigator has a grant from the Division.

4. Notification to the curator, with a copy to the program manager, of any proposed change from tasks stated in the original request.

5. Return to the curator of the remainders of samples or any residue in good condition, unless otherwise authorized by the curator.

Investigators may not distribute residue samples to other investigators without prior approval. Investigators receiving residue samples become subject to the reporting procedures outlined in this section. The objective of this provision is not to restrict research; on the contrary, the objective is to insure that the best possible use is made of the samples and that the curator is fully informed as to their use and disposition.

The curation facility may charge investigators to recover freight or mailing expenses involved in filling requests. The curator will estimate charges, if required, before processing the request.

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Sediment cores and bottom samples have been taken from numerous locations in the southern ocean using the research ship *Eltanin* (now *Islas Orcadas)* and other ships. Published core logs are available from the curator of the Florida State University facility. Before publication of logs, preliminary logs generally are available.

Piston core material is apportioned as follows:

- 1/4 for permanent reference, to be held in the core facility for future investigation as authorized by the Division of Polar Programs
- 3/4 for research use

Gravity cores, trigger cores, grab samples, dredge

samples, and other samples are apportioned as follows:

— 1/3 for permanent reference, as above
— 2/3 for research use

Ice cores

Glacier ice cores have been taken at several locations in Antarctica and Greenland. Deep cores (to bedrock) were taken at Byrd Station and Camp Century. Several 100-meter and 400-meter cores have been obtained from other ice sheet locations. The curator of the ice core storage facility at the State University of New York at Buffalo keeps a record of core locations. A data bank exists for each core, and annual reports on use of core are available.

Dry Valley Drilling Project cores

Preliminary core descriptions prepared by site geologists have been published in *DVDP Bulletins,* available from the Department of Geology, Northern Illinois University, DeKalb, Illinois 60115. The Dry Valley Drilling Project staff at Northern Illinois University keeps a record of sample requests, indicating investigator and subjects of study, that is available on request. Frozen and unfrozen core samples are kept at the Florida State University facility. Igneous rock core, including basement and massive basalts, is at Northern Illinois University, but may be moved to Florida State.

Distribution is made after joint approval by the project sponsors: the Antarctic Division, Department of Scientific and Industrial Research, Christchurch, New Zealand; the Japan National Institute for Polar Research, Tokyo; and the Division of Polar Programs. To request samples, researchers use a form available from a DVDP coordinator in Japan, New Zealand, or the United States or from the curator at Florida State University. To aid in choosing samples for study, new researchers may examine cores at the Florida State or Northern Illinois University facilities.

Ross Ice Shelf Project marine sediment cores

RISP cores are logged visually in the field, then shipped to the Florida State facility. The logs are available from the curator at Florida State. Researchers wishing to obtain samples should get a request form from the project coordinator or from the curator at Florida State, then apply to the Division of Polar Programs as described earlier. Normally, core will not be available until after publication of the logs. However, investigators wishing to study ephemeral properties may request that the waiting period be waived. The curator keeps a record of sample requests, indicating investigators and subjects of study. The record is available on request.

Biological samples

To obtain samples/specimens from the Smithsonian Oceanographic Sorting Center, contact the Director, who will advise on availability of specimens and provide a request form. All requests are reviewed by an appropriate peer Advisory Committee established by SOSC. The DPP is advised of all requests and subsequent action. After study, specimens provided by SOSC must be handled as follows: holotypes and a representative series of nontype specimens should be deposited in the U.S. Museum of Natural History; remaining identified specimens may be deposited in other repositories on approval from SOSC curators.

Addresses and telephone numbers

Curator, Ice Core Facility
Department of Geology
State University of New York at Buffalo
Amherst, New York 14226
(716) 831-1852

Curator
Antarctic Marine Geology Research Facility and Core Library
Florida State University
Tallahassee, Florida 32306
(904) 644-2407

Director
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Smithsonian Institution
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